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LOUISIANA

STATEWIDE WILDLIFE INVESTIGATIONS

ANNUAL PROGRESS REPORT, W-29-R-14
A Pittman-Robertson Project

1966-67

LOUISIANA WILD LIFE AND FISHERIES COMMISSION
CAPITOL STATION
BATON ROUGE, LOUISIANA 70804

STATE OF LOUISIANA

LOUISIANA WILDLIFE AND FISHERIES COMMISSION

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STATE: Louisiana
PROJECT: W-29R-14
PERIOD: July 1, 1966-June 30, 1967

ANNUAL PROGRESS REPORT

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JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

DEER INVESTIGATIONS

State of: Louisiana

Name: Statewide Wildlife Investigations

Project No.: W-29R-14

Title: General Condition of Deer Herds

Job No.: I-2

Period Covered: July 1, 1966 - June 30, 1967

Abstract: Deer checking stations were operated on fifteen (15) Louisiana game management areas during the 1966 managed hunts. Data collected at these checking stations included ages, sex, weights, antler development, fawn-adult ratios, and hunter success ratios. All such physical data has been tabulated and analyzed. These data are compared to similar data obtained on previous hunts. A total of 36,520 hunters harvested 1019 deer on Louisiana game management areas during the 1966 managed deer hunts. A brief deer aging school was held for all technical personnel prior to the opening of deer season.

Recommendations: Renewed effort should be made to refine our techniques for gathering physical data from our deer herds. Deer checking stations are, without a doubt, the most important source of accurate physical data concerning the white-tailed deer. Efficient management can be achieved only if we utilize all available information relating to our deer herds. We should continue to stress the extreme importance of collecting accurate data, and every effort should be made to increase the amount of reliable physical data collected from our deer herds. As in the past, technicians should be required to attend a deer aging school prior

to the annual deer season. At this time technicians should also be familiarized with all data collecting techniques and the associated records to be kept in conjunction with the managed deer hunts.

Objectives:

It is the objective of this study to analyze the physical data from deer killed on the game management areas within the state, and to correlate the physical conditions to age classes, population densities, and fawn-adult ratios.

Techniques used:

Deer checking stations were operated on all game management areas having deer seasons except Bodcau, Caney, Cities Service, and Lutcher-Moore Game Managment Areas. Ages, weights, sex, and antler development was recorded for as many deer as possible from each of the game management areas. Udders of females were checked for evidence of lactation. Simultaneous openings of all game management areas having deer seasons created a shortage of technical personnel and, consequently, many non-technical people were used in the operation of deer checking stations, thereby making it impossible to secure valid information from all of the deer killed on the game management areas. Biologists were assigned only to checking stations where a heavy deer kill was anticipated. The only data collected by non-technical personnel that is used in this report is the total number and sex of the deer coming through their check stations.

All weight data is broken into three categories: Live weight, empty weight, and field dressed weight. Live weight is defined as the weight of the complete intact deer. Empty weight is considered to be the weight of the complete animal with all viscera removed. A deer with only the stomach and intestines removed was considered to be field

dressed. All weight data is broken down by sex and age. The mean weight for each weight category in each age class is calculated. Mean weights were then converted to live weights by the application of generally accepted conversion factors. Mean field dressed weights were converted to live weights by multiplying by the conversion factor of 1.25. Mean empty weights were multiplied by the factor 1.33 to obtain computed live weights. Once all three weight categories were placed in common terms, the average computed live weight was calculated for each age class. By presenting weight data in this manner, one is able to make comparisons between the various management units and data categories. This method of treatment also strengthens the size of the sample.

Deer ages were grouped into three categories for the purpose of this report. In processing data from areas where either-sex hunts were held, ages were recorded as either 6 months, 1-1/2 years, or 2-1/2 years. The first two of these categories are exact ages; the latter is a composite group containing all deer of age 2-1/2 years or older. The purpose of this type of age grouping is to increase the accuracy of our age-weight correlations. Since it is felt that many of the errors made in aging deer are made in the age groups of 2-1/2 years and older deer, the consolidation of the age classes past the 1-1/2 year age group would tend to minimize the effect brought about by aging errors. All previous data has been converted to this new system of grouping for the purpose of comparison.

A deer aging school was held prior to the managed hunts. This afforded technical personnel an opportunity to familiarize themselves with aging criteria.

In cases where bucks-only hunts were held, only the 1-1/2 year and 2-1/2 year age classes were used due to the fact that 6 month old male deer did not have antlers that met the legal minimum of three inches.

All Louisiana game management areas having deer seasons were opened on November 25, 1966, for the managed deer hunts with the exception of Zemurray Park Game Management Area, which opened for a special hunt on December 5, 6, and 7. Hunters on this area were limited to 200 per day. These hunters were selected by public drawing in advance of this special hunt. Those hunters selected received non-transferable permits good for one day of either-sex deer hunting. On other game management areas, hunters were required to surrender their basic hunting license daily to permit stations in exchange for a daily permit. Only still hunting was permitted. All game management areas having deer seasons had either-sex deer seasons except Bodcau, Caldwell, Caney, Cities Service, Lutcher-Moore, and Saline Game Management Areas. All game management areas having either-sex deer seasons were assigned a limit guide number with the exception of Russell Sage and Georgia-Pacific. On the day that the total kill on the respective area reached this number, either-sex deer hunting was terminated and the remainder of the allotted open season was limited to bucks-only. In most cases, the allotted open season for game management areas was five days. Georgia-Pacific Game Management Area was open for either-sex deer hunting the first day and the four remaining days were for bucks-only. Fort Polk Game Management Area had only three days of either-sex deer hunting, plus bucks-only hunting concurrent with open season in adjacent areas. Russell Sage Game Management Area had

one day of either-sex deer hunting and the remainder of the season was for bucks-only concurrent with the adjacent outside area. Bodcau, Caney, Cities Service, and Lutcher-Moore Game Management Areas were opened concurrently with the seasons in adjacent areas.

Checking stations were operated for five days on most of the game management areas. Fort Polk and Zemurray Park Game Management Areas operated check stations for only three days. Bodcau Caney and Cities Service Game Management Areas did not operate deer checking stations. Bodcau, Caney, Cities Service, and Lutcher-Moore Game Management Areas were hunted by season permits. Fort Polk Game Management Area was hunted with season permits following the three day either-sex deer season. Russell Sage Game Management Area was hunted with season permits following the one day either-sex deer season, and checking stations were operated only one day.

Findings: All data collected on managed deer hunts held during the 1966 season has been processed and is presented in tabular form. The following tables give a summary of the results of the managed hunts on some of the game management areas.

Prepared by:
Dan Dennett, Jr.
Study Leader

Approved by:
Robert E. Murry
Project Leader

Table I

Comparison of computed live weights by age class of deer killed on some Louisiana game management areas during the 1965 and 1966 managed deer hunts.

			AGE		
Area	Sex	Year	6 Mos.	1-1/2	2-1/2
Alexander Forest GMA	Male	1965	(15) 51.3	(11) 97.2	(15) 134.0
	Male	1966	(15) 47.2	(12) 87.2	(13) 139.8
	Female	1965	(12) 51.6	(9) 73.0	(18) 87.1
	Female	1966	(10) 44.7	(9) 81.6	(17) 87.0
Caldwell GMA	Male	1965	-------	(8) 115.0	(24) 129.3
	Male	1966	-------	(45) 116.1	(8) 127.9
	Female	1965	No data - "bucks-only" season		
	Female	1966	No data - "bucks-only" season		
Catahoula GMA	Male	1965	(51) 54.1	(55) 89.3	(56) 126.8
	Male	1966	(21) 52.8	(42) 91.0	(38) 125.2
	Female	1965	(66) 49.7	(31) 77.0	(106) 87.6
	Female	1966	(30) 46.5	(28) 77.7	(65) 89.9
Evangeline GMA	Male	1965	(22) 61.6	(5) 95.3	(12) 124.7
	Male	1966	(7) 51.4	(10) 91.3	(5) 132.9
	Female	1965	(9) 50.1	(11) 84.8	(20) 83.6
	Female	1966	(10) 47.6	(4) 74.5	(11) 86.1

NOTE: Numbers in parenthesis denotes size of sample.

Table 1 (Continued) Page 2-

Area	Sex	Year	AGE		
			6 Mos.	1-1/2	2-1/2
Fort Polk GMA	Male	1965	(54) 52.9	(30) 96.6	(26) 120.2
	Male	1966	(44) 51.3	(31) 88.7	(22) 115.0
	Female	1965	(49) 51.0	(29) 74.5	(48) 84.7
	Female	1966	(49) 48.7	(33) 74.3	(56) 89.2
Georgia Pacific GMA	Male	1965	-------	(101) 93.9	(62) 120.5
	Male	1966	(41) 58.8	(100) 98.0	(44) 120.7
	Female	1965	No Data - "Bucks-only" season		
	Female	1966	(35) 54.8	(30) 81.3	(71) 101.5
Jackson-Bienville GMA	Male	1965	(24) 59.3	(29) 119.0	(27) 160.3
	Male	1966	(18) 55.0	(32) 121.0	(17) 188.9
	Female	1965	(26) 56.7	(18) 96.8	(48) 112.0
	Female	1966	(32) 49.6	(20) 93.4	(51) 106.3
Red Dirt GMA	Male	1965	(49) 54.9	(40) 90.3	(38) 125.5
	Male	1966	(45) 53.7	(46) 88.7	(41) 126.9
	Female	1965	(32) 47.8	(20) 75.6	(74) 88.8
	Female	1966	(32) 52.0	(39) 78.1	(92) 91.0

Table 1 (Continued Page 3-

Area	Sex	Year	AGE 6 Mos.	 1-1/2	 2-1/2
Russell Sage GMA	Male	1965	(1) 66.5	(7) 130.9	(6) 201.8
	Male	1966	(17) 59.9	(22) 135.0	(10) 160.2
	Female	1965	(8) 54.5	(8) 97.9	(13) 125.0
	Female	1966	(9) 52.9	(12) 103.7	(24) 112.9
Union GMA	Male	1965	(10) 61.5	(23) 105.2	(14) 149.2
	Male	1966	(5) 66.2	(18) 111.9	(15) 158.1
	Female	1965	(6) 65.4	(12) 90.4	(18) 105.0
	Female	1966	(8) 53.4	(6) 92.4	(9) 110.0
West Bay GMA	Male	1965	-------	(31) 91.6	(53) 107.8
	Male	1966	(61) 47.0	(65) 78.5	(54) 108.7
	Female	1965	No data - "Bucks-only" season		
	Female	1966	(58) 41.7	(44) 72.0	(110) 78.5

Table II

Hunter success ratios for some Louisiana game management areas during the 1965 and 1966 managed deer hunts.

	1965			1966		
Game Management Area	Number of Hunters	Number of Deer Killed	Hunter Success Ratio	Number of Hunters	Number of Deer Killed	Hunter Success Ratio
Alexander Forest	1663	83	1/20	1439	77	1/19
Caldwell	1034*	59	1/18	1294*	59	1/22
Catahoula	4885	359	1/14	5208	234	1/22
Evangeline	1998	83	1/24	1483	47	1/32
Fort Polk	3103	249	1/12	3487	236	1/15
Georgia-Pacific	5838*	165	1/35	4231	329	1/13
Jackson-Bienville	3132	174	1/18	3430	171	1/20
Red Dirt	3724	258	1/14	4861	297	1/16
Russell Sage	833	43	1/19	1240	91	1/14
Sabine	475	24	1/20	540	17	1/32
Saline	NO SEASON			250*	6	1/42
Thistlethwaite	213*	1	1/213	522	13	1/40
Union	1119	83	1/13	1191	71	1/17
West Bay	4130*	86	1/48	6922	406	1/17
Zemurray Park	456**	32	1/14	422**	17	1/25
TOTAL	32603	1699		36520	2071	

* Bucks only season.

** Manner in which hunts were conducted does not reflect an accurate measure of comparable hunter success.

Table III

Deer herd reproduction ratios showing number of fawns per 100 does of age 2-1/2 and older.

Area	Year	Adult Does	Fawns	Ratios
Alexander Forest GMA	1965	18	27	150
	1966	17	25	147
Catahoula GMA	1965	107	109	102
	1966	65	51	78
Evangeline GMA	1965	20	31	155
	1966	11	17	155
Fort Polk GMA	1965	48	103	214
	1966	56	93	166
Jackson-Bienville GMA	1965	48	50	104
	1966	51	50	98
Red Dirt GMA	1965	74	81	109
	1966	92	77	84
Russell Sage GMA	1965	13	9	69
	1966	24	26	108
Union GMA	1965	18	16	89
	1966	9	13	144
West Bay GMA	1965	----*	----	----
	1966	110	119	108

*Bucks-only season.

Table IV

Percentage of 1-1/2 year old bucks having only two antler points (spikes), as found on some Louisiana game management areas during the 1966 managed hunts.

Area	Number of 1-1/2 Year Old Antlered Males Checked	Bucks having 2 points Number	Bucks having 2 points Percent
Alexander Forest GMA	12	9	75%
Caldwell GMA	46	18	39%
Catahoula GMA	41	28	68%
Evangeline GMA	10	7	70%
Fort Polk GMA	30	17	57%
Georgia-Pacific GMA	100	68	68%
Jackson-Bienville GMA	29	15	52%
Red Dirt GMA	44	39	89%
Russell Sage GMA	20	8	40%
Union GMA	18	7	39%
West Bay GMA	56	52	93%

Table V

Incidence of lactation among 1-1/2 year old female white-tailed deer as observed on some Louisiana game management areas during the 1966 hunting season

Area	Number of Deer checked	Number of Deer Lactating	Percent Lactating
Alexander Forest GMA	8	0	0
Catahoula GMA	19	2	10.5%
Fort Polk GMA	24	10	41.7%
eorgia Pacific GMA	18	6	33.3%
ackson-Bienville GMA	13	1	7.7%
ed Dirt GMA	36	0	0
ussell Sage GMA	11	2	18.2%
est Bay GMA	31	0	0

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

DEER INVESTIGATIONS

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: 6 Title: Annual Inventory of Deer Areas

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

Deer range surveys were made in some areas of the state. The findings of these are made available to the Louisiana Wild Life and Fisheries Commission.

Recommendations:

It is recommended that the inventory of the deer areas be continued. It is further recommended that the District Supervisors try to get at least half the deer ranges within their districts surveyed annually.

Objectives:

The overall objective of this study is to gather deer management data from the deer ranges throughout the state. Specific objectives are: (1) to learn as much as possible regarding the various deer ranges of the state and the herds that occupy them, (2) to recommend management measures for all deer ranges in the state and (3) to compile a record of deer management regulations for the various ranges during the recent history of management.

Techniques Used:

Each District supervisor divided his district into deer range survey areas. Each area was to be treated as the range of one deer herd and was to be surveyed and reported on separately. These areas were set up using roads or streams as a well defined boundary. The deer range survey areas of each District are shown on the statewide maps (figures 1 through 10).

The techniques used were taken from a guide that was previously prepared for making the surveys and for preparing a survey report. For the purpose of this report the techniques will be submitted just as they are in the job outline. The techniques are as follows:

Each District Supervisor is responsible for a survey of all the deer ranges in his district annually. Assistance from other district personnel and research personnel was to be provided. Further assistance from employees of the Fish and Game and Enforcement Divisions was to be solicited.

A survey party was to consist of one to several men, each familiar with the browse plants of the area.

A survey route was to be laid out along public roads or along water courses which were navigable. The party was to travel by vehicle or boat between inspection stops.

Inspection stops were to be located on a map of the area. At each stop the investigator was to walk perpendicular to the main line of travel keeping notes on occurrence and use of browse, and deer signs such as tracks, droppings, rubs and signs of dogs and cattle. The timber type and all other information believed to be relevant was to be recorded.

Local people were to be contacted as well as enforcement agents, Forestry Commission employees and industrial foresters to obtain comments helpful to the survey.

The physical condition of the deer was to be obtained from data recorded during the previous season when such data was available.

A narrative report was to be prepared on each area surveyed. The report was to include the description of the area, history of the deer herd and hunting season, factors adversely affecting deer, factors that affect hunting, condition of the range, condition of the herd (if determined), economic liability of deer in the area, recommendations for coming season, the chances of getting the herd managed along sound biological principles and an estimate of needs to facilitate deer management in the area.

Findings:

Because of space requirements, the deer range survey reports covering work accomplished during this period will not be reproduced here.

Deer range surveys were made and reported on in portions of the following parishes: Bienville, Bossier, Catahoula, Claiborne, DeSoto, East Carroll, Franklin, Grant, LaSalle, Natchitoches, Pointe Coupee, Rapides, Red River, St. Landry, Union, Vernon, Webster and Winn. Deer range surveys were made on the following Wildlife Management Areas: Georgia-Pacific, Evangeline, Alexander State Forest, Catahoula, Sabine, Lutcher-Moore, Fort Polk and Red Dirt.

The procedure for this job states that the District Supervisor will be responsible for a survey of all the deer ranges in his district annually. This job has been going on since 1959. The surveying of all the deer ranges within all the districts annually has never been accomplished since the existence of this job. This is shown in figure 1 through 10. These figures illustrate the areas surveyed each year since 1959. Figure 10 illustrates all areas surveyed. Only District III has had all ranges surveyed during this time (Figure 10).

Prepared by: ____________________
Louis E. Brunett
Study Leader

Approved by: ____________________
Robert E. Murry
Project Leader

DATE: ____________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

DEER INVESTIGATIONS

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: I-12 Title: Rumen Content Analysis

Period Covered: July 1, 1966 - June 30, 1967

Abstract: Rumen samples from twelve (12) white-tailed deer have been collected for analysis. Collection jars filled with formalin were distributed to technical personnel throughout the state in order that rumen samples could be collected at every opportunity.

Recommendations: Field personnel should be equipped with a supply of rumen sample collecting jars in order that they will be prepared at any time to collect all available rumen samples. Since at this time most of the samples have been obtained during the hunting season, it would be highly desirable to strengthen the number of samples obtained at other seasons of the year until such time as large samples have been obtained from the major deer herds of the state. Some method of obtaining better cooperation from field personnel should be initiated in order that sufficient numbers of samples can be collected for analysis in the near future. A collection of reference plant materials should be made from each of the major areas represented by rumen sample collections prior to the analysis of the sample material.

Objectives: This job is designed to provide information pertaining to the seasonal food habits of the white-tailed deer in Louisiana.

Techniques Used: Rumen samples were placed in quart fruit jars containing a 10% formalin solution. Care was taken to insure that all of the sample material was covered with the formalin solution so as to reduce the possibility of sample spoilage. The date of collection and the collection locality is scratched into the jar lid with a knife point so as to eliminate the possibility of losing the identity of sample material through misplaced or destroyed labels.

Findings: No further attempt at analysis of sample material collected under this job will be made until such time as large numbers of samples from major deer herds are available. It is anticipated that field collections will probably take at least one more year to be complete. A collection of reference plant material will be made from the areas represented at the completion of rumen sample collections. This plant material will be preserved in 10% formalin in order that it can be used as a basis of comparison at the time the rumen samples are analyzed.

The primary emphasis of this study is now being placed on the collection of sample material at times of the year other than the hunting season.

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Study Leader

Approved by:
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Project Leader

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

DEER INVESTIGATIONS

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: I-7 Title: Southeastern Cooperative Wildlife Disease Study

Period Covered: July 1, 1966 - June 30, 1967

Abstract: No field trips were made to Louisiana by personnel of the Southeastern Cooperative Wildlife Disease Study (SCWDS) during the period covered by this report. Ecto parasite collections were made from all major deer herds in Louisiana and forwarded to SCWDS for identification and evaluation.

Recommendations: Continued efforts should be made to investigate diseases and parasites of our major deer herds in order that we may increase our management efficiency.

Objective: To conduct field and laboratory investigations of wildlife parasites and diseases.

Techniques Used: All techniques used are governed by the SCWDS.

Findings: All findings resulting from information collected under this study are reported on by the SCWDS. No field trips were made to Louisiana by the SCWDS during the period covered by this report.

The collection and examination of ectoparasites taken from wild white-tailed deer was the primary achievement under this job during the period indicated. These ectoparasites were collected from deer killed on managed deer hunts and forwarded to the SCWDS for subsequent examin ation and identification by the USCA Laboratory at Beltsville, Maryland. Ectoparasites taken from seventy-one (71) white-tailed deer were examined.

As of the date that this report is written we have received no formal report of the findings of the necropsies of deer collected at West Bay Game Management Area and Pecan Island. This type of delay has been experienced before and so reported in earlier job completion reports. Field personnel feel very strongly that in order for the information derived from necropsy examinations to provide the maximum possible use to management that it must be disseminated from the examing group into the field in the shortest possible period of time.

Prepared by:
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Approved by:
Robert E. Murry
Project Leader

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

DEER INVESTIGATIONS

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: 8 Title: Establishment of Browse

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

A study plot of slash pine (Pinus caribaea) and yaupon (Ilex vomitoria) seedlings was established on the Red DirtGame Management Area in February, 1966. In January 1967, this plot was burned and the pine seedlings were replaced. Some seeds of yaupon and honeysuckle (Lonicera japonica) planted on prepared beds on Red Dirt came up.

Recommendations:

It is recommended that this job be continued with emphasis placed on establishing deer browse plants from seed under various field conditions. The re-establishment of the plot to yaupon and pine should be completed and a sample of plants in each treatment checked at the end of each growing season.

Objectives:

To determine if deer browse plants can be introduced on pine sites and if competition will exist between these plants and pine and at what stocking rate competition occurs. To determine the best seeding method of deer browse plants for highest germination.

Techniques Used:

This report will cover the work accomplished during this segment.

In February 1966, on the Red Dirt Game Management Area, study plots were established with seedlings of slash pine and yaupon. All plots were one-tenth acre in size. The slash pine was planted on all plots at an 8 foot by 8 foot spacing. The yaupon was put out three plots at each of three stocking rates. The plots were established in the following manner: (1) three plots of slash pine and yaupon at 720 plants per acre, (2) three plots of slash pine and yaupon at 360 plants per acre, (3) three plots of slash pine and yaupon at 160 plants per acre and (4) three plots of slash pine only.

During January 1966, the United States Forest Service was prescribed burning the compartment where the above study plots were established. This fire was permitted to burn through the study destroying the young pine and yaupon. More pine seedlings were obtained and the plots were re-established. The yaupon seedlings were not put in.

On Red Dirt, in February 1966, yaupon and honeysuckle were planted on beds that had been prepared with a breaking plow and disked smoothly. Yaupon seed, removed from the fruit, that had been gathered during the winter of 1964-65 and stored in a refrigerator and seed gathered during the winter of 1965-66 were planted. This seed was dropped by hand onto the prepared bed and covered with pine needles. The honeysuckle seed, removed from the fruit, and whole fruit were planted in the same manner at different locations on the bed.

Findings:

No measurements were taken of the pine and yaupon study plots.

The yaupon seed planted on the prepared beds on Red Dirt in February 1966, and covered with pine needles started coming up in the early spring of 1967.

The honeysuckle planted on similiar beds in February 1966, started coming up during that year. This past spring more of the seeds of both species came up.

Prepared by: ______________________
Louis E. Brunett
Study Leader

Approved by: ______________________
Robert Murry
Project Leader

DATE: ____________________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

DEER INVESTIGATIONS

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: I-9 Title: Preliminary Parasite Survey

Period Covered: July 1, 1966 - June 30, 1967

Abstract: Three deer were necropsied for the purpose of this study. All of these deer were collected in the Winn Parish deer study enclosures, which are research study pens which have known stocking levels. No outstanding parasite infections or disease conditions were evident in these deer examined.

Recommendations: This study should be continued in order that we may maintain proficiency in making gross examinations of deer associated with problem herds, general condition studies, or unexpected mortalities. This will enable our field personnel to detect parasite problems in deer herds under observation during the course of normal field activities. In addition, we will ultimately be able

to more fully understand the relationship between parasite levels and optimum deer populations. This experience will also serve to acquaint the field technician with the more common disease or parasite conditions and, as a result, he will be more fully qualified to recognize major disease or parasite problems should they become a reality.

Objectives: The objectives of this job are to compile a list of the common parasites of the white-tailed deer in Louisiana, and familiarize technicians with these forms and their associated pathology. Color slides will be taken of as many parasites and pathological conditions as possible.

Techniques Used: Standard post-mortem examination procedures were used for these studies. Each deer was methodically disected and inspected for parasites and tissues that appeared to be abnormal.

Findings: Three (3) deer collected from the Winn Parish deer research enclosures were examined

and revealed no unusual parasite infections or disease conditions. All of these deer were found to have light to moderate infections of the gullet worm (Gongylonema pulchrum). All of the deer from this area thus far examined have exhibited evidence of this parasite.

The abomasum of all three deer examined from this area showed light to moderate inflammation with evidence of a long history of parasitism. This condition has also been found in other deer examined from these research enclosures. This pathology is similar to that associated with the deer medium stomach worm (Skrjabinagia odocoilei).

One of the deer examined, an adult female in excellent general condition, bearing ear tag No. 65204, was found to have one miningo worm (Pneumostrongylus tenuis), and two brownish colored nodules on the meninges. These discolored nodules are frequently found associated with infections of the miningo worm.

Ectoparasites found on these animals were considered to be numerous with deer louse fly (Lipoptena mazamae) being the most numerous ectoparasite encountered.

One additional deer found by a hunter who reported it to the Louisiana Wild Life and Fisheries Commission field personnel was examined for evidence of parasite or disease conditions. Necropsy revealed that this particular animal had suffered a massive injury to the left shoulder, resulting in a fracturing of the scapula. Several large patches of hair were also knocked from the skin of the animal with moderately deep abrasions showing on the hide. It is assumed that this animal had probably been struck by some vehicle. No internal evidence of a significant parasite or disease condition was found with the exception of apparent pneumonia in the left lung and no doubt brought about by the severe injury to the left shoulder.

General condition of this animal was excellent prior to injury as indicated by bone marrow fat content.

Identification of the parasites listed in this report should be regarded as tentative identifications only. These identifications were made by taking into consideration the host species, characteristic pathology, and deer herd history. All examinations employed gross techniques.

Prepared by:	Approved by:
Dan Dennett, Jr. Deer Study Leader	Robert E. Murry Project Leader

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

DEER INVESTIGATIONS

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: 11 Title: Cooperative Range Study

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

The fences of the three enclosures and controls were checked and maintained. The levees and spillways of the watering ponds were also maintained. The drive to verify the presence of the deer revealed each enclosure was properly stocked.

Two deer and one deer, were removed from the eight and four deer enclosures, respectively. These animals were replaced. The deer removed were examined for general physical condition and internal and external parasites.

Recommendation:

It is recommended that this job be continued with the same objectives as during this segment.

Objectives:

The objectives of this job are: (1) to check the fence around three 160 acre deer enclosures and the 20 acre controls and to keep the fence right-of-way free of brush and to maintain the levees and spillways of the watering ponds, (2) to verify the presence of the proper number of deer in each enclosure, (3) to get weights, measurements, physical condition and check the deer for internal and external parasites in the enclosures and replace the animals in an orderly manner.

Techniques Used:

The fence around the three 160 acre enclosures and their 20 acre controls was inspected every two weeks and immediately after each heavy rain and high wind for washouts and trees or tree branches that may have blown on it. Bushes and briars on the fence right-of-way were controlled using a farm tractor and rotary brush cutter.

To verify the presence of the proper number of deer in each enclosure, the standers and drivers method as described in previous reports was used.

To get weights, body measurements, physical condition and check the deerfor internal and external parasites, two deer were removed from the eight deer enclosure by shooting. During the inventory of the four deer enclosure one animal ran into the fence and broke her neck. This deer was checked as described above. After two unsuccessful attempts to remove an animal from the two deer enclosure by shooting it was decided to postpone this removal for another year.

All animals removed from the two enclosures were weighed along with being examined for general physical condition, internal and external parasites. The examination was made by deer study leader, Dan Dennett, Jr. This was the second year two animals from the eight deer enclosure and one from the four deer enclosure were examined.

Findings:

The fence was checked, the fence right-of-way and spillways and levees to the watering ponds were maintained.

The drive to verify the presence of deer in the enclosures revealed each to be properly stocked.

The deer removed from the eight and four deer enclosures were replaced by animals,nine to twelve months old, trapped on the Red Dirt Game

Management Area. All deer were x-rayed by a local veterinarian to make sure they were not pregnant. Each new deer, prior to being released, was marked with a naughahyde covered leather collar. Each collar in one enclosure was a different color.

The examination of the two animals removed from the eight deer enclosure in March, 1966 showed both to be in good physical condition. Those removed in March, 1967, were in rather poor condition.

The examination of the deer removed from the four deer enclosure in 1966 showed it to be in poor condition. This deer had practically no fat on the viscera and showed a bone marrow fat content of approximately 50 per cent according to color comparisons with known standards. This animal did have a severe inflamation in the bladder which could possibly indicate some sort of urinary tract infection which may account for its poor condition. It was expected that this animal would have been in better physical condition than those from the eight deer enclosure. The general physical condition of the animal removed from this enclosure in 1967 was found to be excellent.

The one deer removed from the two deer enclosure in 1966 was in excellent physical condition. It weighed 95 pounds while the two removed from the eight deer enclosure weighed 75 and 80 pounds, respectively.

Prepared by: ______________________ Approved by: ______________________

Louis E. Brunett
Study Leader

Robert Murry
Project Leader

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

DEER INVESTIGATIONS

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: 14 Title: Deer Publication

Period Covered: July 1, 1966 through June 30, 1967

Abstract: Background and supporting data collected during this period was assembled and reviewed.

Recommendations: It is recommended that this job be continued with the same objective as was set forth for the year 1966-67. It is further recommended that the deer study leader and selected biologists prepare the publication.

Objective: To prepare a publication for distribution to interested citizens and sportsmen from deer data that has accumulated through the years 1949-1967.

Techniques Used: Background and supporting data obtained during this period relative to the publication were assembled and reviewed. Photographs were obtained and reviewed. The Unit Leader of the Cooperative Wildlife Research Unit at Louisiana State University was to do most of the work in preparing the publication. Other duties prevented him from devoting sufficient time, during this segment, to get anything accomplished on the publication. It is anticipated, at this time, the publication will be finished and ready for distribution by June 30, 1968.

Prepared by: ______________________
Louis E. Brunett
Study Leader

Approved by: ______________________
Robert Murry
Project Leader

DATE: ______________________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

DEER INVESTIGATIONS

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: 15 Title: Palatability of Sprouts

Period Covered: July 1, 1966 through June 30, 1967

Abstract: A study area was set up to produce sprouts by treating deer browse species with a herbicide, with burning and with cutting. The herbicide used was 2,4, 5T. An abundance of sprouts were produced by the species burned and cut. Samples of sprouts from the treated areas were collected in 1966 for chemical analysis and to determine if those produced by the herbicide treated plants retained the chemical. The results of the analysis has not been received.

Recommendation: It is recommended that this job be completed. Upon receipt of the results of the analysis of the collected sprout samples, a completion report will be prepared.

Objective: The objective of this job was to determine if sprouts produced by 2,4,5T treated browse species retained the herbicide and the effect it had on their palatability.

Techniques Used:

To accomplish the objective of this job sprouting of deer browse species was induced by three methods: (1) herbicide treatment, (2) burning and (3) cutting. A cattle free study area was selected on the Red Dirt Game Management Area. This area was situated in a stream bottom that was extremely wide. The overhead canopy of the study area was of medium density and made up of loblolly pine (Pinus taeda), white oak (Quercus alba), water oak (Quercus nigra) and beech (Faqus grandifolia). The understory was made up of black gum (Nyssa sylvatica), maple (Acer rubrum), spring huckleberry (Vaccinium elliottii), yaupon (Ilex vomitoria), azalea (Rhododendron canescens), water oak, sweetleaf (Symplocos tinctoria), witch-hazel (Hamamelias virginiana), whitebay (Magnolia virginiana), parsley hawthorn (Crataegus marshallii), red-bay (Persea borbonia), snowbell (Styrax americana), largeleaf gallberry (Ilex coriacea), candleberry (Sebastiana ligustrina) and flowering dogwood (Cornus florida). This area was chosen because a variety of plants could be treated on a small area.

The study area was divided into four plots. Each plot was approximately one acre in size. Desirable and intermediate preference deer browse species on one plot were treated with 2,4,5T (four pounds acid equivalent per gallon) at a concentration of eight pounds acid equivalent per hundred gallons of water and diesel oil emulsion. The herbicide was applied to each plant through the use of a back pack type sprayer.

Deer browse species, on one plot, considered to be of desirable and intermediate preference were cut with a brush blade. There was no effort made to cut these at any specific height. The cut was made at a convenient height anywhere near ground level to 18 inches.

One plot was burned in March, 1966. One plot was not treated and was used as a control. Periodic observations were made to determine if there was a choice made by deer, between the sprouts produced on browse species as treated by the three methods described above.

In June, 1966, samples of sprouts from whitebay, redbay, maple, dogwood, azalea and blackgum were clipped from the burned and cut plots. The sprouts on the herbicide treated plants had not made sufficient growth to collect a sample large enough to be analyzed. These samples plus those from plants in the control area were not collected until September. Two samples were collected from each species on each plot. The first two inches of the stem tip made up one sample and the next four inches of each stem made up the other. These samples were taken to the Cooperative Wildlife Research Unit at Louisiana State University. There they were oven dried and ground. The Feed and Fertilizer Laboratory at the University was to analyze the samples to determine the percentage of protein, fat, fibre, moisture, ash, calcium and phosphorous. They were to also analyze samples for retention of the herbicide.

This study was also conducted in 1965. Two year old sprouts were also collected in June and September, 1966 from the same plants and treatments as described above. Thus the samples included sprouts of the current season's growth and of two year's growth. Useage by deer of the various treated plots was also observed during this project segment.

Findings:

The results of the analysis of the sprout samples collected have not been received from the Feed and Fertilizer Laboratory at Louisiana State University.

Prepared by: ______________________
Louis E. Brunett
Study Leader

Approved by: ______________________
Robert Murry
Project Leader

DATE: ______________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

DEER INVESTIGATIONS

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: 16 Title: Winter Plantings

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

The honeysuckle plants in the north 40 deer corral of the Red Dirt Game Management Area did not make enough growth to pursue two objectives of this job. On one plot, on Red Dirt, wheat was planted at two fertilization rates. One of these rates was recommended as the result of the analysis of soil samples. Part of the wheat was protected from deer and clipped in March to get a total production figure. Other wheat was protected but was clipped periodically to get a measure of the effects of deer use. Those plots where lime, 6-24-24 fertilizer and ammonia nitrate were applied produced the most green forage per acre.

Recommendations:

It is recommended that this study be continued. The portion of the study involving evaluation of honeysuckle versus wheat as winter plantings for deer should be continued.

An evaluation should be made of the amount of green forage produced by wheat where it is top dressed with ammonia nitrate at various times. This study should be set up by having the soils analyzed and plots put in using fertilization rates as recommended, fertilization rate that has been used in the

past and no fertilizer. It is further recommended that before future plantings of any nature are made on Red Dirt, the soil on the plots be analyzed and fertilized as recommended.

Objectives:

To determine the practicability of establishing honeysuckle (Lonicera japonica) plots for deer; to determine the amount of forage produced per acre of honeysuckle planting and to determine the effects browsing has on wheat production.

Procedure:

To accomplish the objectives pertaining to the honeysuckle, a study was to be conducted in the two 40 acre deer corrals on the Red Dirt Game Management Area. These two corrals are in typical Red Dirt timber types and topography. These corrals are referred to as the south 40 and north 40.

It appears that honeysuckle is high on the preference list of foods for deer. It is possible that this plant may be established on or around existing food plots and once it is established it would not require annual planting. For this reason, this plant could replace wheat which is planted annually. Wheat planted on plots, on this area, is usually used heavily by deer each winter.

The objectives relating to honeysuckle have been in this study for three years. There has been a problem of getting plants established.

Efforts have been made each year to establish two acres of honeysuckle in the north 40. Survival has been poor. At the present time there is approximately one acre of established honeysuckle plants. These have been fertilized and are making a considerable amount of growth.

To accomplish the objectives of determining the amount of forage produced per acre of planted wheat and the effects browsing has on wheat production, a study was initiated on a plot on Red Dirt. The plot was flat, poorly drained and the soil was a fine sandy loam.

In the summer of 1965, soil samples were collected from this plot and turned over to the County Agent of Rapides Parish. The County Agent sent the samples to the Soil Testing Laboratory, Louisiana State University, Agricultural Experiment Station, Baton Rouge, Louisiana, for analysis.

Each plot was prepared for planting by breaking the soil with a farm tractor and breaking plow and double disking. Eighteen study plots, 20 feet by 30 feet were measured off in two groups of nine. Each group of plots were three plots wide and three plots long separated by a five foot buffer strip. In each group of plots three were planted with the lime and a fertilization rate as recommended from the soil analysis; three were planted at the fertilization rate of 300 pounds 12-12-12 per acre and three were planted with no fertilizer or lime and used as a control. The seeding rate for all plots was two (2) bushel of wheat per acre. The 300 pounds 12-12-12 represents fertilization rates used on the plots in the past.

The study plots were planted by applying the required amount of lime and fertilizer, or fertilizer and seed, on the previously prepared seedbed and then disked in.

The recommendation for lime and fertilizer per acre was three tons lime, 400 pounds 6-24-24 or 0-20-20 per acre and 150 pounds of ammonia nitrate or 300 pounds nitrate of soda, plus top dressing with 150 pounds ammonia nitrate in January. Four hundred pounds of 6-24-24 plus the recommended amount of ammonia nitrate was used at the time of planting. The wheat was planted on October 12, 1966.

One group of nine plots was used to get a total production figure. The other group was used to determine the effects browsing by deer had on wheat production. In each group of plots, three plots one meter in size, were picked mechanically on each of

the 20 by 30 foot plots. This made a total of nine sampling plots for each treatment on each group of plots. To protect the wheat on these sampling plots from being utilized by deer, protective cages constructed from 1 by 2 inch weld wire were used. The cages were round in shape and covered an area equal to one meter square. On one group of plots, the wheat under these cages was clipped and weighed on March 31, 1967. This wheat was clipped approximately one inch from the ground. The weights obtained from the clipped wheat were used to compute a total production figure.

The wheat under the protective cages on the other group of plots was clipped three times from January through March 31, 1967. This wheat was clipped each time one inch from the ground. This periodic clipping was to simulate deer use. The weights obtained from this clipped wheat were used to compute a weight that represents a production figure where wheat recovered from simulated browsing.

In the fall of 1965 wheat was planted in another portion of this plot. It was planted on similar plots using the same fertilization rates. However, that wheat was top dressed with ammonia nitrate on February 1, 1966, at the recommended rate of 150 pounds per acre. The wheat planted in 1966 was not top dressed. The purpose of the 1965 planting was to get a total production figure under various fertilization rates.

Findings:

The honeysuckle in the north 40 made poor growth resulting in a cancellation of the pursuit of the first two objectives. The honeysuckle present is putting on an abundance of growth and it appears that work toward accomplishment of the first two objectives may be resumed during the fall of 1967.

The analysis of soils of the wheat study plot revealed that all nutrients checked were low in availability. The check showed available phosphorous 19 parts per million, available potassium 20 parts per million, available calcium 120 parts per million and available magnesium 53 parts per million. The pH was determined to be 4.4.

To grow wheat on this soil, it was recommended that the least amounts of fertilizers needed per acre was three tons of lime, 100 pounds of nitrogen, 80 pounds phosphate and 80 pounds of potash. The three tons of lime per acre was to correct the low calcium and pH. The duration of the lime would be approximately five years. To correct the phosphate and potash deficiency, it was recommended that 400 pounds of 6-24-24 or 0-20-20 per acre be applied annually. Nitrogen was to be applied at 150 pounds per acre at the time of planting or top dressed after a stand was obtained.

On the wheat plot, the green forage was clipped and weighed to obtain a total production figure. Green forage production was computed as follows: (1) where lime, fertilizer (6-24-24), and ammonia nitrate was applied 17,317 pounds per acre, (2) where fertilizer (12-12-12) only was applied - 7,759 pounds per acre and (3) no fertilization (control) 3,096 pounds per acre.

On this same plot during the winter of 1965-66 the production was 27,326 pounds per acre, 10,570 pounds per acre and 1404 pounds respectively for each treatment. However, the wheat on the plots that received lime, fertilizer and ammonia nitrate was top dressed in February with ammonia nitrate. The plots receiving that treatment during this segment were not top dressed.

On those plots clipped periodically to simulate deer browsing, the following amounts were computed to be produced: (1) where lime, fertilizer (6-24-24) and ammonia nitrate was applied 13,044.6 pounds per acre, (2) where fertilizer (12-12-12) only was applied 4,835.5 pounds per acre and (3) control 1,461.8 pounds. It is therefore assumed at this time that deer browsing wheat does have a significant effect on the production of green forage.

Prepared by: ____________________
Louis E. Brunett
Study Leader

Approved by: ____________________
Robert Murry
Project Leader

DATE: ____________________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

DEER INVESTIGATIONS

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: 17 Title: Burning Study

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

On the Red Dirt Game Management Area, a three acre plot was established and burned during the summer of 1965. It was burned again in June 1967. A three acre control plot was established adjacent to it.

On Red Dirt, four plots, each two acres in size, were established and three of these were burned in March, 1965. In March, 1966, one was burned while two received the same treatment in March, 1967. One of the two acre plots is maintained as a control. On the Catahoula Game Management Area, four plots, two acres in size, were established and received the same treatment as those on Red Dirt. Study plants were marked to collect the necessary data.

Recommendation:

It is recommended that this job be continued until enough data can be collected and evaluated to determine the effects of seasonal burning on deer browse species.

Objectives:

To determine the effects of summer burning on deer browse species along the stream bottoms in the longleaf pine timber type. To determine the effects of winter burning every year, every two years and every three years on deer browse plants in the longleaf pine, loblolly-shortleaf pine-hardwood timber type.

Techniques Used:

On the Red Dirt Game Management Area, in the stream bottom of Steep Hill Creek, two adjacent plots, each three acres in size, were established. One of these plots was burned in June, 1965. The other plot will not be burned and will be used as a control. These plots begin in the creek bottom and extend out to and includes a hillside. The treated plot is to be burned every two years, in June, until it is burned three times.

On the Red Dirt Game Management Area, four plots, each two acres in size, were established. These plots begin in the creek bottom of Steep Hill Creek and extend out onto the hillside. These plots will be burned in the following manner: (1) one burned every year, (2) one burned every two years and (3) one burned every three years. Three of the plots were burned in March, 1965. One control plot will not be burned. These plots will be used to accomplish the objectives related to the longleaf pine timber type.

On the Catahoula Game Management Area, in the loblolly-shortleaf pine-hardwood timber type, four plots were established. Each of these plots is two acres in size. The plots are side by side beginning in a stream bottom and extending out onto a hillside. Three of these plots were burned in January, 1965. One plot will not be burned, one burned every year, one every two years and one every three years.

On Red Dirt and Catahoula, the plot to be burned annually was treated in March, 1966. During this segment the plots to be burned annually and the one to receive treatment every two years were burned in March, 1967.

The plot to be burned in the summer was first treated in 1965. It was treated again in June, 1967.

After the 1965 growing season, deer browse species on all the study plots were marked and checked. They were marked so the same plant could be checked each year. The plants were checked by noting the condition of the main stem, counting the number of sprouts produced by each old stem and by getting the total length, to nearest half inch, of the main stem of each sprout.

An effort was made to check on each plot, 10 plants of each species selected for study. However, that number of some species was not present on every plot. On Red Dirt, on the plots burned in winter, those species selected for study were yaupon (Ilex vomitoria), blackgum (Nyssa sylvatica), maple (Acer rubrum) and whitebay (Magnolia virginiana). On Catahoula, the species selected were ash (Fraxinus pennsylvanica), water oak (Quercus nigra), elm (Ulmus alata), maple, blackgum, and dogwood (Cornus florida).

On Red Dirt, on the plot burned in the summer, the species selected for study were dogwood, maple, whitebay, blackgum and yaupon.

On the plots burned in the winter, on both Red Dirt and Catahoula, permanent line transects were established to check the species and number of forbs that would come in. On Catahoula six transects, one chain long were established on each study plot. On Red Dirt the transects were the same length, but only three were established on each plot. A surveyor's chain was used for the line. The chain was stretched between two points and all forbs directly under it were identified and counted.

Photographs were taken from fixed points on all plots.

Findings:

All data was collected but was not analyzed. An analysis will not be made until the plot to be burned every three years is treated again and the data is collected.

Prepared by: ____________________
Louis E. Brunett
Study Leader

Approved by: ____________________
Robert E. Murry
Project Leader

DATE: ____________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

DEER INVESTIGATIONS

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: 18 Title: Timber-Browse Relationships

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

Study plots are being established on the Saline Wildlife Management Area to gather data on the response of bottomland understory plants to two levels of thinning, medium and heavy, in three distinct plant communities. Plots are also being established on the Russell Sage Wildlife Management Area to study eradication of overcup oak and bitter pecan by five methods and the effects this will have on the other vegetation.

Recommendations:

It is recommended that this study be continued until enough conclusive data is obtained.

Objectives:

To accomplish the objectives, study plots are being established on the Saline Wildlife Management Area in LaSalle and Catahoula Parishes and Russell Sage in Ouachita and Richland Parishes. On the Saline area, the objective is to gather data on the response of bottomland understory plants to two levels of thinning, medium and heavy, in three distinct plant communities. The objectives of the Russell Sage study are: (1) to determine an effective method of eradicating overcup oak-bitter pecan understory in bottomland hardwoods; (2) determine

the change in the vegetation pattern following the various treatments; (3) determine the approximate amount of animal useage on browse species within the study area; (4) determine survival rate of underplanted hardwoods on treated areas.

Procedure:

On the Saline Wildlife Management Area 45 plots, each four acres in size, were to be established. Thirty-six have been put in. These plots are grouped in lots of nine. Eighteen plots are in the overcup oak-bitter pecan community, 18 plots are in the nuttall oak, ash, overcup oak, bitter pecan community the the absence of palmetto and 9 plots in the ash, overcup oak, bitter pecan, water oak, nuttall oak, rock elm community with palmetto present. Each community represents a different topographic elevation. In those communities where 18 plots are established, 9 of these will be fenced to exclude free ranging cattle. In the community where 9 plots are being established, cattle will be excluded. Conducting an inventory and logging of the plots will be accomplished during the next segment of this study.

On the Russell Sage Wildlife Management Area the procedures are different than those for the study on the Saline area. Two study areas were selected in an overcup oak-bitter pecan stand. The dimensions of each study area are 22 by 23 chains. Four base lines, 22 chains in length and 5 chains apart, are being established in each area. Along the base line, 6 study plots measuring two chains square with a buffer zone between are being put in. Six treatments will be applied to the plots on each line. This will make 18 replications of each treatment occurring within the total 8 lines, all to be selected randomly. The six treatments are: (1) burning, (2) mist blown herbicide, (3) direct flame treatment with flame thrower, (4) mechanical-hand cut and herbicide treated stumps, (5) bulldozer with brush blade and (6) control. Each treatment will be underplanted with hardwood seedlings.

The study areas, as divided, will have a total of eight rows with six plots per row creating forty-eight equal plots. Each plot in the six plot row will be subjected to a different treatment to be selected randomly. A plot measuring 40 links square will be established in the center of each two chains square plot and will be divided into 16 milacre plots, two of which will be selected randomly for intensive study. One will be fenced deer and rabbit proof, the other will be unfenced. Animal useage will be noted by monthly comparisons of fenced to unfenced plots. Composition studies will be made by determining the identity and the number of species present in the two selected milacre plots and percentage of the total area each species occupies.

Permanent camera stations will be established at each milacre plot, fenced and unfenced, for photo comparisons. Photos will be taken quarterly if apparent changes occur.

The entire study area will be underplanted with selected hardwood seedlings; survival and height growth will be measured.

Ground water gauges will be used to take monthly measurements of standing and free ground water.

Findings: The studies are in various stages of installation and no data has been collected.

Prepared by: ______________________
Louis E. Brunett
Study Leader

Approved by: ______________________
Robert Murry
Project Leader

DATE: ______________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

DEER INVESTIGATIONS

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: I-19 Title: Deer Drive Census Technique

Period Covered: July 1, 1966 - June 30, 1967

Abstract:

An investigation of deer drive census technique was conducted on West Bay Game Management Area in Allen Parish, Louisiana, in the fall of 1966 and the spring of 1967. Twenty-four (24) random plots, each approximately forty acres in size, were sampled. Twelve (12) men were positioned as observers around each plot prior to driving and drivers were sent on parallel courses at approximately 70' intervals through the plot in order that all deer within the sample area could be observed and counted. Data collected during the pre-season census in September, 1966, indicated an estimated total population for the area of 1,547 deer. Data

collected during the post-season census indicated that an estimated total population of 864 deer was present on the area. Measured hunter kill for the 1966 season was 406 deer. These data suggest that the sensitivity of this type of census is not great enough to warrant its use in providing accurate management information. Several methods for improvement of this type of population census were found during the course of this investigation.

Recommendations:

Information obtained as a result of this study of the practical application of drive census technique indicates that this method, at least in its present form, does not provide the deer manager with accurate data. Because of the large number of people required to adequately cover a sample plot of only forty acres in size this type of census technique is extremely expensive and because of certain inherent limitations

there is little hope for improvement of this method through refinement of the technique.

It is felt that the topography and land features of the West Bay Game Management Area provided an ideal situation in which to test this type of census and should have afforded us the best opportunity to evaluate the drive census technique and assess the accuracy of this method. Therefore, in view of the high cost and poor accuracy, it is recommended that this type of census be abandoned as a source of management information.

Objectives:

This study is designed to investigate the feasibility of pre and post-season deer drive censuses on the West Bay Game Management Area for the purposes of providing accurate information relating to deer population fluctuations on game management areas.

Techniques Used:

This study was conducted on West Bay Game Management Area in Allen Parish, Louisiana. This

area is approximately 58,000 acres in size. It is said to be in the longleaf pine type. The topography is flat and poorly drained with numerous fingers and pockets of hardwood timber scattered throughout the pine lands. In many cases these "bays", as these pine hardwood areas are known locally, are infiltrated with loblolly pine.

The habitat has an excellent deer producing potential. Numerous roads and firebreaks are found throughout the area and provide generally good all-weather access. In many cases, roads are to be found completely surrounding 40 acre blocks of timber in the pine type portions of the area. Twelve deer census plots were randomly selected equally from each the pine hardwood portions of the area and the pure pine type localities, taking advantage of road rights-of-way as standing positions for the observers or standers of the census. Twelve standers or observers and forty-three drivers were required

for each drive census. Where possible, sample plots were located on 40 acre blocks having roads on all four sides. In pine hardwood areas it was often necessary to set up a triangular plot having roads on only two sides. In these cases, compass courses were taken between the two roads and these lines flagged with plastic flagging tape. When these conditions were encountered, distances were measured and adjusted so as to provide a plot of only approximately 40 acres.

Standers or observers for the census were positioned around the perimeter of the study plots in order that they would be able to observe any deer flushed.

In cases where study plots were rectangular in shape, standers were placed on three sides and the drivers entered from the remaining side. In cases where the plots were triangular in shape, standers were placed on two sides and the drivers

entered from the remaining side. Calculations revealed that an interval of approximately 70' was necessary throughout the drives in order to exert an equal amount of driving effort on each plot. The width of each plot was measured prior to driving in order that sufficient drivers could be placed on the plot so as to insure the prescribed 70' intervals. This interval was calculated by dividing the longest plot side that would be used by the total number of drivers present. Drivers were instructed to remain quiet while going to their positions on the driving line so as to minimize the possibility of flushing a deer that would not be seen by the standers.

An attempt was made to position standers and drivers simultaneously in order that the sample plot could be completely surrounded in a minimum amount of time so as to reduce the possibility of deer moving from the plot and not being counted.

This required the coordination and cooperation of field supervisory personnel assisting in the operation as well as the use of two-way radios. Drivers remained on the driving line until a signal was given, at which time they advanced evenly through the sample plot.

At the end of each plot census, the number of deer seen by each stander was recorded as well as the number of deer that had turned back through the drive line.

Both the pre-season and post-season censuses were necessarily conducted in two segments. The reason for this being that all twenty-four plots could not be censused in one day. Twelve sample plots per day appeared to be the maximum capability of an operation of this size. Consequently, each segment consisted of sampling twelve plots. The remaining twelve plots were sampled one week later. The first segment of the pre-season census

was held on September 23, 1966, and the second segment was held on September 30, 1966. The first segment of the post-season census was conducted on March 17, 1967, and the second segment was conducted on March 23, 1967.

Findings:

Information gathered from the various landowners involved in the West Bay Game Management Area provided us with data concerning timber types of the area. Using this information, we find that there are approximately 39,720 acres of pine lands and approximately 18,280 acres in the pine hardwood timber type. The latter type includes those fingers of pine hardwood known as "bays". Also included in the area are approximately 6,884 acres of miscellaneous pine lands. This latter category would include openings, new pine plantations, and pine lands having T. S. I. operations for hardwood control. These figures provide us with

the basis for calculations of deer populations estimated for the purpose of this investigation. As would be suspected, the higher number of deer was calculated to be present in the pine hardwood areas, which in turn indicates a higher carrying capacity than the pine lands. All population estimates were made by using a simple direct proportion in the following manner:

$$\frac{\text{No. of Deer Observed}}{\text{Total Acreage Censused}} = \frac{\text{Est. Population of Respective Timber Type}}{\text{Total Acres of Timber Type}}$$

The results of both the pre-season and the post-season deer drives are covered in Tables I and II. Data found in these tables suggest that there is a loss of 683 deer from the population from the date the pre-season census was made until the post-season census was made.

Information gathered at deer checking stations operated during the entire open season showed that only 409 deer were taken during this regular season.

Thus it is apparent that there is a large difference between the measured kill obtained from check station data and the estimated kill as calculated from drive census data. While it is understandable that a complete check of all animals killed during the managed hunt cannot be made, the estimated kill calculated from census data does not appear to be realistic. Even if a total, including those deer not checked by the checking station, deer killed and not found, plus cripples ultimately dying from injuries received during the managed hunts, could be obtained, it would seem to be highly unlikely that this total would be as high as the estimated 683 animals that are calculated to be absent from the population. We must, therefore, conclude that there are some inherent deficiencies existing in this type of deer census which preclude the capability of this technique providing accurate population estimates. Two

possible sources of error in this technique are readily apparent. First, the time required to completely surround an area so as to prevent deer within a study plot from escaping observation. This part of the census must be coordinated in order that the area can be approached quietly, quickly and completely surrounded within a matter of minutes. Secondly, the interval of the drivers might be shortened so as to provent breaks occurring in the driving line and deer from crouching in a thicket and letting the drivers walk by.

While it is felt that the field operations involved in the investigation of this technique were highly successful, our population estimates apparently were not accurate enough to provide usable management information and it is, therefore, recommended that this type of census technique be abandoned as a management tool.

Prepared by:	Approved by:
Dan Dennett, Jr. Deer Study Leader	Robert E. Murry Project Leader

TABLE I

esults of drive census conducted on West Bay Game Management Area, Allen Parish, ouisiana, prior to the 1966 deer hunting season.

	Pine-Hardwood Plots	Pine Plots
	Number of Deer Seen	Number of Deer Seen
st Segment eptember 23, 1966)	9	7
d Segment eptember 30, 1966)	12	2
TOTAL DEER SEEN	21	9
pprox. Acreage Censused	480 acres	480 acres
st. Acres per Deer	22.8 acres	53.3 acres
st. Population	802 deer	745 deer

stimated total population for area prior to 1966 hunting season, 1,547.

TABLE II

esults of drive census conducted on West Bay Game Management Area, Allen Parish, ouisiana, after the 1966 deer hunting season.

	Pine-Hardwood Plots	Pine Plots
	Number of Deer Seen	Number of Deer Seen
st Segment March 17, 1967)	6	4
nd Segment March 23, 1967)	8	0
TOTAL DEER SEEN	14	4
pprox. Acreage Censused	480 acres	480 acres
st. Acres per Deer	34.3 acres	120 acres
st. Population	533 deer	331 deer

stimated total population for area after the 1966 hunting season, 864.

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

DEER INVESTIGATIONS

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: 20 Title: Population Dynamics

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

On the Red Dirt Game Management Area a deer trapping operation was conducted. The area was divided into five trapping units. One hundred and ten traps were erected and used. These were allocated to each unit on an acreage basis. Thirty-two deer were trapped and of these 29 were released at the trap site.

The track count portion of the study was dropped.

Recommendation:

It is recommended that this study be continued for the full three years.

Objectives:

The objective of this job is to study population dynamics of a managed deer herd. The specific objectives are: (1) pre and post season population estimates; (2) per cent killed by hunters; (3) total annual mortality; (4) rate of kill by sex and age classes; (5) to relate browse evaluation surveys to population estimates; (6) to check dentition of known aged deer as a quality control of aging techniques generally used and (7) to relate track counts to population estimates.

Techniques Used:

This study is being conducted on the Red Dirt Game Management Area. To accomplish the objectives of this job, 110 box traps were used to try to catch, mark and release at the trap site as many deer as possible.

The sampling scheme called for dividing the area into five trapping units. All quarter sections in each unit were consecutively numbered. Quarter sections in which traps would be located were randomly selected. One suitable trapping site was located within the selected quarter section. The number of trap sites selected was weighed according to the acreage in each subdivision.

Traps were moved to the selected site, erected and baited. Previous trapping experience on Red Dirt indicated that soybeans was a readily accepted bait during the winter while salt was better in the early spring.

The information gathered on each deer caught included date caught, trap number, ear tag number, ear tattoo number, sex, weight and age. In the remarks column of the trapping records other information recorded on each animal was location of release, physical condition, retraps, old tag numbers and any other information considered pertinent.

A graduate student from the School of Forestry and Wildlife Management was selected to conduct the track count part of this study. After available information on this subject was collected and reviewed, the student and leader of the Cooperative Wildlife Research Unit consulted Professors of Statics at the University. The advice of the statisticans was that the track count would not give reliable information. The track count was cancelled for this job segment.

Findings:

During the trapping operation, 32 different deer were caught. All of these were released at the trap site with the exception of three. These were taken to the Winn Parish deer enclosures. Nine animals released at the trap site were retrapped. Four were retraps from trapping operations of past years. Radio transmitters were attached to four of the deer as required by another study.

Two deer were lost in the trapping operation.

Prepared by: ______________________
Louis E. Brunett
Study Leader

Approved by: ______________________
Robert Murry
Project Leader

DATE: ______________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

DEER INVESTIGATIONS

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: I-21 Title: Deer Movement Study

Period Covered: July 1, 1966 - June 30, 1967

Abstract:

The initial phases of a deer movement study involving the use of telemetry equipment was begun on Red Dirt Game Management Area, Natchitoches Parish, Louisiana, during the period covered by this report. Five (5) Deer were equipped with radio transmitters and were tracked for a period of time varying from seven to fifteen days with specialized directional receivers. The principal difficulty encountered during this study was the short operational span of the individual transmitters. This equipment failure was apparently due to a mechanical failure within the transmitting unit. The cause of equipment malfunction was apparently located, and modified equipment appears to perform satisfactorily under all field conditions. Information gathered under this study has greatly influenced planning and field techniques relating to movement studies of deer using telemetry equipment.

Recommendations:

All transmitters presently on hand should be returned to the manufacturer in order that modifications can be made using knowledge now available so as to prevent future recurrences of equipment malfunctions. It is suggested that an intensive telemetry study of deer movement on Red Dirt Game Management Area be initiated using this modified equipment and

techniques developed during the initial phases of this study. Data should be gathered during all seasons of the year so as to provide background information on seasonal movements of the white-tailed deer. It would be highly desirable to instrument as many as ten (10) deer, if possible.

Objectives:

It is the objective of this study to collect and analyze data concerning the seasonal movements of the white-tailed deer in Louisiana. Modification of existing telemetry equipment and refinement of investigating techniques should also receive special attention in order that a workable system of gathering movement data from instrumented white-tailed deer may be developed.

Techniques Used:

Miniaturized radio transmitters operating in the 150 mc. range were tested under field conditions prior to attachment to wild-trapped white-tailed deer. This study was conducted on Red Dirt Game Management Area in Natchitoches Parish, Louisiana. Equipment was manufactured by Sidney L. Markusen of Esko, Minnesota. Equipment from this firm was selected for several reasons, one of which was the fact that this firm was a pioneer in the development and manufacture of specialized telemetry equipment. In talking and corresponding with several investigators throughout the Southeast, this equipment received high recommendations from almost all of the workers that were questioned. As a result, ten (10) transmitters and two (2) receivers were procured from the firm and were used as a basis for the telemetry system employed in this study. Preliminary testing was done prior to actual attachment of the transmitter collars to a deer in order that the limitations and characteristics of the equipment could be learned before wild animals were used. These preliminary testings showed that the equipment was apparently well suited for use in all

types of topography, both hilly and flat, with varying degrees of ground cover. These testings were carried out by sending a man with an activated transmitter walking through selected areas having a wide variety of cover types and attempting to plot his movements with the equipment. One undesirable feature was noted in that at close ranges of 100 to 200 yards in heavy cover there was an apparent signal bounce which resulted in extreme difficulty in locating the exact point of signal source. Preliminary field data suggested that usable audible signals could be obtained at ranges of one-half mile and possibly further under ideal conditions.

After the completion of preliminary testing and familiarization with field equipment, transmitter collars were placed on five white-tailed deer on Red Dirt Game Management Area. Response from the individual transmitters was excellent for varying periods of time. One transmitter apparently ceased to operate after about seven days. The longest period of operation obtained from any of the five transmitters was fifteen days. There seemed to be an apparent relationship between equipment failure and rain storms. Two collars were subsequently retrieved and returned to the manufacturer for analysis and modification. The manufacturer concluded that the difficulty was caused by moisture penetrating the capsule of the transmitter and altering the parts within the unit. Subsequent field testing indicates that this modification might possibly solve the problem of malfunction.

Bearings were obtained on signals emitted from transmitters by using specially constructed directional receivers. In most cases, bearings on a particular signal were obtained by using only one receiver. Several readings were taken on the same signal from known points plotted on a map, thus allowing location to be

established. In some cases two receivers were used to obtain simultaneous readings on the same signals, but, due to the topography involved on this particular area, this was highly impractical in most situations.

Findings:

No movement data will be reported in this phase of the study due to the small amount of data made available during the period covered by this report. Late arrival of equipment and the previously mentioned malfunctions have seriously hampered the progress of the proposed study.

Field work involved in this study was done by graduate student, Don Lewis, who is using this investigation as a thesis project and will provide us with detailed information in order that a complete and comprehensive report can be made when this study is terminated.

Prepared by:
Dan Dennett, Jr.
Study Leader

Approved by:
Robert E. Murry
Project Leader

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

WATERFOWL STUDY

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: II-2 Title: Aerial Census of Louisiana Waterfowl

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

Five statewide waterfowl inventories were run during this fiscal year. A comparison between the 1966 and 1967 mid-winter inventory indicated a decrease of 11.4% from 1966 to 1967 in the total number of ducks observed.

Recommendations:

1. Conduct aerial surveys bimonthly.
2. Estimate use of refuges by waterfowl before, during and after the season.
3. Continue offshore surveys of scaup to get a better estimate of the population.
4. Change from line transect method through known areas of duck concentrations to total count method of these areas.
5. Use the Cessna 210 for all surveys.

Objectives:

1. Provide periodic estimates of the state waterfowl population for public information.
2. Provide estimates of waterfowl day use on state refuges and public shooting grounds.
3. Continue the exploration of offshore areas to improve present estimates of the scaup populations wintering in Louisiana waters.
4. Explore methods to verify estimate counts of waterfowl.

Techniques Used: Used line transects as described in the Louisiana Waterfowl Population Study Final Report, July 1949-June 1961. All marsh flights were made by the Cessna 210 land plane.

Findings: The 11.4% decrease in total number of ducks observed in Louisiana during the 1967 inventory does not indicate a decrease in all species. The following table indicates an increase or a decrease by species over 1966 mid-winter.

Mallard	-33%	Shoveler	=	L. Scaup	-48%
Black duck	+100%	Pintail	-8%	Ringneck	+99%
Gadwall	+2%	Wood duck	*	Ruddy	+15%
Baldpate	+7%	Mottled duck	+66%	Merganser	-33%
Green winged teal	-25%	Red head	+12%		
Blue winged teal	+44%	Canvasback	+25%		

* Not censused

The only important species that decreased from 1966 mid-winter to the 1967 mid-winter was the mallard with a 33% decrease. Green winged teal were down 25%, but their importance in the bag is always dependent on the abundance of pintails. If pintails aren't available, then Green winged teal are taken in greater quantities. Pintails were available this year, therefore, this large decrease in Green wings was not significant in decreasing the quality of hunting in Louisiana.

Prepared by: ______________________ Approved by: ______________________

Clark M. Hoffpauer
Study Leader

Robert Murry
Project Leader

DATE: ______________________________

LOUISIANA WILD LIFE AND FISHERIES COMMISSION

New Orleans, Louisiana

-WINTER WATERFOWL INVENTORY: LOUISIANA STATE

E OF COVERAGE: Transect and Total Count DATE: January 10-15, 1967

REPORTED BY: Hoffpauer, Perroux, Brazda
Summerell

Population Estimates by Zones, Areas or Other Units
Names of Areas

PECIES	SOUTHWEST LOUISIANA	SOUTHEAST LOUISIANA	CENTRAL LOUISIANA	NORTHEAST LOUISIANA	NORTHWEST LOUISIANA	STATE TOTALS
lard	146,000	205,000	64,000	27,000	3,000	445,000
ck Duck	1,000	4,000	7,000	1,000	1,000	14,000
wall	395,000	484,000	10,000	11,000	4,000	904,000
dpate	293,000	222,000	11,000	5,000	2,000	533,000
en W. Teal	298,000	317,000	43,000	7,000	2,500	667,500
e W. Teal	93,000	85,000	5,000	2,500	1,000	186,500
veler	186,000	98,000	3,000	1,000	1,000	289,000
tail	556,000	297,000	164,000	3,000	4,000	1,024,000
d Duck	*	*	*	*	*	*
tled Duck	35,000	53,000	tr.	0	0	88,000
head	1,000	24,000	0	0	0	25,000
vasback	6,500	6,000	2,000	500	0	15,000
up	63,000	120,000	4,000	6,000	2,500	195,500
gneck	34,000	33,000	10,000	4,000	2,000	83,000
dy	4,000	2,000	3,000	6,000	0	15,000
ganser	500	6,000	500	0	0	7,000
AL DUCKS	2,112,000	1,956,000	326,500	74,000	23,000	4,491,500
ada Geese	6,000	0	0	0	0	6,000
tefront G.	46,000	0	0	0	0	46,000
e & w Geese	216,000	115,000	0	0	0	331,000
AL GEESE	268,000	115,000	0	0	0	383,000
ts	505,000	238,000	35,000	14,000	28,000	820,000

timated 10% increase over last year.

(See notes on back)

A total of 4,491,500 ducks, 331,000 geese and 820,000 coots was found in Louisiana during the mid-winter waterfowl census conducted by the Louisiana Wild Life & Fisheries Commission and the Bureau of Sport Fisheries and Wildlife Four aircraft were flown a total of 50 hours and 5000 miles conducting this survey. Bad weather was constant during the census.

Water conditions in 1966 differed greatly from 1965. The coastal marsh this year was constantly flooded and allowed very few seed producing plants to grow. Thus, the ducks were scattered over the marsh and rice field areas in the state. Hardwood flats in the Atchafalaya Basin, Central and North Louisiana all contained mallards, but due to the difficulty in counting in such areas they could have been undercounted as much as 30%. Wood ducks are another problem to count as they use the same areas. It was agreed by all personnel conducting the census the wood ducks had increased at least 10%.

No large concentrations were seen due to the scattering of ducks, but large numbers were seen south of the Intracoastal Canal below Morgan City and Houma, Louisiana. The Big Burn area above Little Chenier, Louisiana, had the largest number of ducks in the Southwest Louisiana marshes.

The Southwest Louisiana rice fields bordering the Intracoastal Canal had the largest number of ducks found in that area since 1957.

By comparison with last year the overall waterfowl population this year is slightly lower. One particular decrease was noted in scaup, but these ducks were here during the earlier part of the year and moved out. Mallards were down but could have been overlooked in the hardwood flats. The other species status were approximately equal to last year or increased over last year.

R ODIC WATERFOWL: MISSISSIPPI FLYWAY STATE: Louisiana

P OF COVERAGE: Total Count & Transect DATE: Jan. 3 - 10, 1966

REPORTED BY: Hoffpauir & Summerall

Population Estimates by Zones, Areas or Other Units

Names of Areas

PECIES	SOUTHWEST LOUISIANA	SOUTHEAST LOUISIANA	CENTRAL LOUISIANA	NORTHEAST LOUISIANA	NORTHWEST LOUISIANA	STATE TOTALS
ard	361,000	154,000	65,000	82,000	3,000	665,000
k Duck	2,800	2,200	500	1,000	500	7,000
all	592,000	230,000	38,000	18,000	9,000	887,000
pate	314,000	146,000	20,000	10,000	5,000	495,000
n W. Teal	475,000	268,000	87,000	17,000	8,000	855,000
W. Teal	79,000	43,000	3,000	2,000	1,000	128,000
eler	187,000	88,000	9,000	3,000	3,000	290,000
ail	702,000	234,000	167,000	5,000	5,500	1,113,500
Duck	7,000	22,000	25,000	25,000	20,000	99,000
led Duck	31,000	22,000	0	0	0	53,000
ead	0	23,000		0	0	23,000
asback	4,000	3,500	2,500	2,000	0	12,000
p	241,000	116,000	5,000	15,000	3,000	380,000
neck	16,000	1,500	12,000	10,000	2,500	42,000
y	1,200	0	4,000	8,000		13,200
anser	3,000	7,000	0	0	0	10,000
L	3,016,000	1,360,200	438,000	198,000	60,500	5,072,700
da Geese	6,817	0	0	0	0	6,817
efront G.	46,642	0	0	0	0	46,642
& Geese	352,220	23,000	0	0	0	375,220
L	405,679	23,000	0	0	0	428,679
ts	800,000	195,000	10,000	2,000	8,000	1,015,000

A total of 5,072,700 ducks, 428,679 geese and 1,015,000 coots we found in Louisiana during the mid-winter census of waterfowl conducte the Louisiana Wild Life & Fisheries Commission. This added up to a g total of 6,516,379 waterfowl found in the state during the week of Ja 3-10.

As compared to the mid-winter of last year there was very little change or variation in species composition but an increase of about 3 ducks. Still holding their own are mallard and pintails that occurre high numbers this year just as in years past.

Some of the largest concentrations of ducks observed were in the White Lake Marsh, Rockefeller Refuge, Sabine Refuge, Catahoula Lake a the marshes south of Houma, La. Reports from up the Flyway indicate that 3 or 4 million mallards failed to make it as far south as Louisi by the end of the hunting season due to mild weather.

Louisiana started out this fall with a very dry Sept., Oct., and This was good for seed producing annual grasses to grow but many duck arriving during the fall migration moved on further south for lack of in many of our best marshes. This was indicated by large groups of d being seen one day and gone the next. Undoubtedly our gadwall and bal counts would have been higher if better water conditions had existed ing the early fall. When the rains finally came in December the coas marshes rapidly flooded and the ducks on hand spread out everywhere. in turn made hunting difficult.

Whitefront, blue and snow geese were also very plentiful this ye Concentrations centered around south Gueydan, Lake Arthur west, and G Chenier, La. This large number of geese supplied many fine hours of ing in southwest Louisiana. All in all, Louisiana's mid-winter waterfowl population looked very good during the census.

ERIODIC WATERFOWL INVENTORY: MISSISSIPPI FLYWAY STATE: Louisiana

YPE OF COVERAGE: Transect & Total DATE: October 3-7, 1966

REPORTED BY: Clark M. Hoffpauer

Population Estimates by Zones, Areas or Other Units
Names of Areas

SPECIES	SOUTHWEST LOUISIANA	SOUTHEAST LOUISIANA	CENTRAL LOUISIANA	NORTHEAST LOUISIANA	NORTHWEST LOUISIANA	STATE TOTALS
allard	100	0	0	0	0	100
lack Duck	0	0	0	0	0	0
adwall	8,000	3,000	500	500	500	12,500
aldpate	31,000	14,000	4,000	1,500	2,500	53,000
reen W. Teal	8,000	5,000	500	500	500	14,500
lue W. Teal	26,000	19,000	34,000	3,000	1,000	83,000
hoveler	4,000	3,000	9,000	500	500	17,000
intail	23,000	17,000	51,000	1,500	1,000	93,500
ood Duck	*	*	*	*	*	*
ottled Duck	32,000	41,000	0	0	0	73,000
edhead	0	0	0	0	0	0
anvasback	0	0	0	0	0	0
caup	0	0	0	0	0	0
ingneck	500	0	0	0	0	500
uddy	0	0	100	0	0	100
erganser	0	0	0	0	0	0
OTAL	132,600	102,000	99,100	7,500	6,000	347,200
anada Geese	0	0	35	0	0	35
hitefront G.	200	0	180	0	0	380
lue & now Geese	320	0	50	0	0	370
OTAL	520	0	265	0	0	785
oots	21,000	16,000	3,000	1,000	500	41,500

*Not Censused

This is the first of the waterfowl inventories to be made during the fall and winter of 1966-67. At this time pintails are more numerous than any other species. Widgeon are increasing in number daily and should be one of Louisiana high population species this year. Blue winged teal are moving through the state in good numbers en route for more southerly wintering grounds.

Mottled ducks had a very good nesting season this summer in Louisiana. Good water and food conditions contributed to their high nesting success. Louisiana will probably witness a record mottled duck population this year.

LOUISIANA WILD LIFE AND FISHERIES COMMISSION
400 Royal Street
New Orleans 16, Louisiana

RIODIC WATERFOWL INVENTORY: MISSISSIPPI FLYWAY STATE: Louisiana

PE OF COVERAGE: Total Count and Transect DATE: October 28 - November 4 ,6

REPORTED BY: C. M. Hoffpauer

Population Estimates by Zones, Areas or Other Units
Names of Areas

SPECIES	SOUTHWEST LOUISIANA	SOUTHEAST LOUISIANA	CENTRAL LOUISIANA	NORTHEAST LOUISIANA	NORTHWEST LOUISIANA	STATE TOTALS
llard	28,000	7,000	82,000	4,000	2,000	123,000
ack Duck	0	0	200	0	0	200
dwall	151,000	106,000	28,000	3,500	3,000	291,000
ldpate	140,000	92,000	12,000	1,000	1,000	246,000
een W. Teal	84,000	27,000	13,000	15,000	1,000	126,500
ue W. Teal	65,000	13,000	5,000	2,000	500	85,500
oveler	57,000	20,000	15,000	1,500	1,000	94,500
ntail	113,000	61,000	82,000	2,000	1,000	259,000
od Duck	*	*	*	*	*	*
ttled Duck	37,000	38,000	0	0	0	75,000
dhead	1,000	0	0	0	0	1,000
nvasback	0	0	100	0	0	100
aup	120,000	8,000	500	500	500	129,500
ngneck	4,000	2,000	100	3,000	500	9,600
ddy	1,000	100	200	4,000	500	5,800
rganser	500	2,000	300	500	100	3,400
TAL	801,500	376,100	238,400	20,400	11,100	1,447,500
nada Geese	*	*	*	*	*	*
itefront G.	*	*	*	*	*	*
ue & ow Geese	*	*	*	*	*	*
TAL						
ots	126,000	192,000	41,000	12,000	18,000	389,000

Not Censused

COMMENTS ON BACK

Waterfowl are migrating into Louisiana with increasing rapidity. This was conducted prior to and during the last cold front passage. All waterfow arrived in the cold front were not counted, because the front hit the state last day of the survey.

Aerial observation made since the cold front passage indicate that larg numbers of waterfowl have arrived after the completion of this inventory.

LOUISIANA WILD LIFE AND FISHERIES COMMISSION
400 Royal Street
New Orleans 16, Louisiana

IODIC WATERFOWL INVENTORY: MISSISSIPPI FLYWAY   STATE: Louisiana

E OF COVERAGE: Total Count and Transect   DATE: November 29-December 7, 66

By Airplane   REPORTED BY: C. M. Hoffpauer

Population Estimates by Zones, Areas or Other Units
Names of Areas

SPECIES	SOUTHWEST LOUISIANA	SOUTHEAST LOUISIANA	CENTRAL LOUISIANA	NORTHEAST LOUISIANA	NORTHWEST LOUISIANA	STATE TOTALS
lard	172,000	86,000	75,000	5,000	4,000	342,000
ck Duck	1,000	1,000	7,000	1,000	1,000	11,000
wall	480,000	312,000	6,000	6,000	3,000	807,000
ipate	280,000	246,000	9,000	2,000	2,500	539,500
en W. Teal	360,000	160,000	95,000	8,000	3,000	626,000
e W. Teal	110,000	62,000	6,000	2,000	1,000	181,000
veler	118,000	81,000	4,000	1,000	1,000	205,000
tail	407,000	123,000	280,000	4,000	3,000	817,000
i Duck	*	*	*	*	*	*
tled Duck	37,000	38,000	0	0	0	75,000
ead	1,000	15,000	0	0	0	16,000
asback	2,500	1,000	500	500	0	4,500
up	25,000	27,000	3,000	4,000	2,000	61,000
neck	12,000	25,000	9,000	2,000	10,000	35,500
ly	2,000	1,000	3,000	6,000	0	12,000
anser	1,000	3,000	100	0	0	4,100
L	2,008,500	1,158,500	497,600	41,500	30,500	3,736,600
da Geese	3,740	150	100	0	0	3,990
efront G.	56,850	100	0	0	0	56,950
& Geese	384,000	37,000	250	100	0	421,350
L	444,590	37,250	350	100	0	482,290
s	1,060,000	520,000	20,000	4,000	5,000	1,609,000

ood ducks not censused
oose censuses 90% completed by USF & WS and LA.WL & FC

The total waterfowl population in Louisiana has increased greatly since the November 1st inventory. Increases were noted in all species except mottled duck. The mallard population is not as high as expected, but there has been no severe weather up north to move the birds down.

The lack of abundant food in the coastal marsh has caused the ducks to scatter into areas not normally used in abundant food years. Rice fields are being used more this year than in several years past.

Catahoula lake has the highest concentration of ducks reported in ten years. They number 400, 000, primarily pintail and gadwall.

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

WATERFOWL STUDY

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: II-4 Title: Wood Duck Trapping and Banding

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

A greater effort in the wood duck trapping program, particularly on Anacoco and Bundicks Lakes, has increased the number of birds banded from 11 in 1965-66 fiscal year to 599 for this fiscal year.

Recommendation:

This job should be continued with emphasis placed on both bait trapping and drive trapping of wood duck roosts.

Objective:

To band 750 wood ducks as part of the Mississippi Flyway Cooperative wood duck trapping program.

Techniques Used:

Float type traps 3' x 4' constructed of 1" x 2" weld wire and mounted on 5' x 7' cypress floats were constructed. Conventional duck traps were constructed of 1" x 2" weld wire with 1" poultry wire used to restrict the opening in the V.

Findings:

The wood duck will rank from third to sixth place in the Louisiana duck kill and will rank from second to fifth in the total Mississippi Flyway kill. For this reason a Flyway banding program is carried out. Louisiana has a difficult role in this cooperative program due to the vastness of the wood duck breeding, i.e. the Atchafalaya Basin. Most trapping is dependent on small resident flocks.

The type traps employed were the floating type and the funnel type. Another trap tried was the drive trap. In one night in St. Landry Parish, 88 wood ducks were caught by driving. A total of 599 wood ducks was banded in the state during this fiscal year.

Prepared by: ____________________
Clark M. Hoffpauer.
Study Leader

Approved by: ____________________
Robert Murry
Project Leader

DATE: ____________________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

WATERFOWL STUDY

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: II-6 Title: Cooperative Canadian Banding

Period Covered: July 1, 1966 through June 30, 1967

During 1967 L. D. Soileau traveled to Lake Kinistino, Saskatchewan, Canada to band ducks on the waterhen marshes. This is a Ducks Unlimited project and has raised many ducks in the past. This year Mr. Soileau and his crew banded 1,934 mallards and 463 pintails by bait banding.

Prepared by: ____________________
Clark M. Hoffpauer
Study Leader

Approved by: ____________________
Robert Murry
Project Leader

DATE: ____________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

WATERFOWL STUDY

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: II-7 Title: Cooperation with Mississippi Flyway Council Technical Section

Period Covered: July 1, 1966 through June 30, 1967

The waterfowl study leader cooperated with the Mississippi Flyway Council on all assignments. These included sending one man to Canada for cooperative banding and two men to the wing school at Fort Collins, Colorado. The study leader attended the spring meeting of the Technical Section at Wayne, Michigan, a special Canada goose meeting at St. Louis and the fall meeting of the Mississippi Flyway Council at St. Louis. The waterfowl study leader is a member of the Private Holdings Committee, Regulations Committee and the Blue Goose Committee.

Prepared by: ______________________
Clark M. Hoffpauer
Study Leader

Approved by: ______________________
Robert Murry
Project Leader

DATE: ______________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

WATERFOWL STUDY

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: II-9 Title: Evaluation of Physical Changes in Marsh Ponds on the Wisner and Biloxi Development Projects

Period Covered: July 1, 1966 - June 30, 1967

Abstract:

All ponds behind weirs and earthen dams had higher amounts of vegetation in them and lower chlorides than the control ponds.

Recommendations:

This study should be terminated or turned over to District VIII Supervisor.

Objectives:

1. Record the number, type, and location of structures and earth dams on the study areas and determine the acreage influence by the improvements.

2. Investigate the physical and vegetative changes in the marsh ponds resulting from the improvements erected on the area.

Techniques Used:

The location and date of construction for each structure and earthen dam erected on the Wisner and Biloxi areas were obtained from Robert Beter, Supervisor, of District VIII. All weir locations and study ponds were the same as last year. More detailed maps of most study ponds and structures are attached to Project W-29R-7, Work Plan II, Job No. 10. The techniques used to investigate physical and vegetative changes in the study ponds were those described in the completion report for Job No. 10, Work Plan II, of Project W-29R-7 and 8.

All field sampling was conducted by Robert Beter, Supervisor, District VIII.

indings:

All plots on the earthen and wooden samples contained Ruppia maritima. Only two (2) of the controls had this plant, and in a very sparse amount.

Volumetrically the milliliter total was 12,275 for the earthen dams and 13,170 for the wooden structures. A total of 100 ml. was found on the controls. This represents 123 times more aquatics behind the earthen dams and 132 times more behind wooden structures as compared to the controls.

The average salinity was identical, 8.58 ppt, on the earthen and wooden structures as compared to 9.13 ppt in the controls. I do not consider this significant nor the causative factor. Stability and lack of turbidity are to me the primary agents.

VEGETATIVE SAMPLING

Ruppia maritima

arth	ml.	Stations found	Wooden	ml.	Stations found	Control	ml.	Stations found
1	3675	34/100	1	2000	29/100	1	--	0/100
2	100	4/100	2	370	26/100	2	--	0/100
3	2000	29/50	3	3500	48/50	3	--	0/100
4	5750	29/50	4	6000	47/50	4	100	9/50
5	750	23/50	5	1260	23/50	5	--	0/50
6	Trace	6/50	6	40	6/50	6	Trace	2/50
	12,275			13,170			100	

Salinity

Earth	ppt.	Wooden	ppt.	Control	ppt.
1	9.2	1	9.0	1	8.8
2	6.7	2	8.2	2	9.4
3	9.4	3	8.5	3	10.6
4	8.3	4	8.4	4	9.0
5	8.8	5	8.6	5	8.4
6	8.6	6	8.8	6	8.6
Average	8.58		8.58		9.13

Prepared by:
Clark M. Hoffpauer
Study Leader

Approved by:
Robert E. Murry
Project Leader

Date ______________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

WATERFOWL STUDY

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: II-12 Title: Mottled Duck Transplant Study

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

No mottled ducks were raised or released this fiscal year. Examination of the study area indicates high animal predation.

Recommendation:

This study should be terminated due to heavy animal predation.

Objective:

This job is designed to evaluate the mottled duck as a transplant to permanent fresh water areas of up-state Louisiana.

Techniques Used:

Class I, II, III and adult birds were transplanted to North Louisiana. They were released in natural surroundings after holding Class I and II ducklings for three weeks.

Findings:

In the Holly Ridge area where 126 mixed class ducks were released in May, 1966, no broods and only 11 adult mottled ducks were seen in 1967. A two day ground observation was made and no nests were seen. In the area were many raccoon, opossum and dog tracks. It can only be concluded that animal predatio prevented successful nesting.

Prepared by: ____________________
Clark M. Hoffpauer
Study Leader

Approved by: ____________________
Robert Murry
Project Leader

DATE: ____________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

WATERFOWL STUDY

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: II-13 Title: Effects and Extent of Oil Field Canals on Louisiana Marshes

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

Canal dredging was mapped and a new method of photography employing infra-red ecktachrome film is being used.

Recommendations:

It is recommended that this job be continued as a means of compiling information on the changes in historical drainage patterns of the Louisiana marshes and the resulting effects on vegetation.

Objectives:

Determine effect on portions of Louisiana marshes as influenced by oil field canals. Determine extent of existing canals.

Techniques Used:

New structures were sketched on topographic maps of the areas of current oil and gas exploration and development. Topographic quadrangle maps were substituted for aerial photographs because the Commission airplane was unavailable for aerial photography during September.

The study leader discussed the scope of pending canal developments with various marshland owners, land managers and petroleum companies in order to compile information on the number of new canals to be expected.

A new type of aerial photography is being used. This new technique uses infra-red ecktachrome film that will measure the amount of plant vigor by different color renditions.

This type of photograph will allow the investigator to determine if the plant community involved is thriving or suffering from the influence of oil field canal dredging.

Findings:

No conclusions were drawn from this year's investigations. Approximately 6,000 square miles of marsh land maps had canals recorded on them. Twenty-eight high altitude infra-red pictures were taken and will be studied to obtain data from them.

Prepared by: ____________________
Clark M. Hoffpauer
Study Leader

Approved by: ____________________
Robert Murry
Project Leader

DATE: ____________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

MOURNING DOVE STUDY

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: 1 Title: Population and Productivity

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

During the period July 1, 1966 through June 30, 1967, two census methods, the call-count and the random road count, were employed in an effort to determine trends in the statewide mourning dove population. The call-count survey indicates an 18.1% increase in the number of calling doves heard from the 1966 level. The average May-June random road count indicates a 5.2% increase from the 1966 level at that time.

Recommendations:

The call-count survey should be continued as part of the national program of breeding population measurement. It has serious limitations, but is the only tool presently available for determining trends in the breeding population.

The random road count will be discontinued. Although this count may well have served as a historical record of the abundance of doves for future comparisons, cooperators have not regularly submitted counts. The lack of record keeping by some personnel and irregularity of the reporting of others reduced the value of this survey.

Objectives:

This job was designed to provide an index to the mourning dove population. The size of the breeding population and a measure of production are needed to assist in the formulation of hunting regulations.

Techniques Used:

During the period from July 1, 1966 through June 30, 1967, two census methods were employed in an effort to determine trends in the statewide mourning dove population. The call-count survey was conducted from May 20 through June 10, while the random road count data were collected during year round daylight travel in accordance with a set of operational procedures.

Findings:

The call-count survey provides the only national population index presently available, but it furnishes an index to the breeding population only and does not serve as an indicator of production. The random road count, more properly called the haphazard road count, has the advantage of censusing production as well as the breeding population. Inspection of the statewide random road count data reveals fewer doves evident in July, August and September, but more in October and November. Kill surveys indicate a substantially larger kill during last fall when compared to the 1965-66 year's hunting season.

An increase of 5.2% in the number of doves seen was evident during the May and June, 1967 random road count when compared to the same period in 1966. The call-count reflects an increase of 18.1% in the number of doves heard during the 1967 survey as revealed below:

(Call-Count May-June)
(Average No. Per Route)

	1966	1967	Trend
No. Heard	11.4	13.4	18.1% increase

Random Road Count
(Doves/100 Miles)

	1966	1967	Trend
May–June	4.42	4.65	5.2% increase

Prepared by: ____________________
Larry Soileau
Study Leader

Approved by: ____________________
Robert Murry
Project Leader

DATE: ____________________

TABLE I

DOVE RANDOM ROAD COUNT

DISTRICT I

Month	Miles Traveled	Doves Recorded	No. Doves Per 100 Miles
July, 1966	5072	99	1.95
August	2305	25	1.08
September	4924	69	1.40
October	2825	7	.25
November	4616	17	.37
December	5126	44	.86
January, 1967	6355	120	1.89
February	4539	74	1.63
March	3589	32	.89
April	4763	160	3.36
May	5019	171	3.41
June	4915	185	3.76

DISTRICT II

July, 1966	2235	28	1.25
August	2276	24	1.05
September	*		
October	*		
November	*		
December	*		
January, 1967	*		
February	*		
March	*		
April	*		
May	1180	230	19.49
June	1499	149	9.94

* No Data

TABLE I (Cont'd)

DOVE RANDOM ROAD COUNT

DISTRICT III

Month	Miles Traveled	Doves Recorded	No. Doves Per 100 Miles
July, 1966	2039	117	5.74
August	3098	254	8.20
September	1508	59	3.91
October	3470	127	3.66
November	1770	87	4.92
December	1563	86	5.50
January, 1967	1117	13	1.16
February	2668	155	5.81
March	4943	71	1.44
April	4758	377	7.92
May	2507	157	6.26
June	4258	161	3.78

DISTRICT IV

Month	Miles Traveled	Doves Recorded	No. Doves Per 100 Miles
July, 1966	528	17	3.22
August	2334	94	4.03
September	1696	78	4.60
October	705	9	1.28
November	815	34	4.17
December	125	0	.00
January, 1967	223	1	.45
February	81	2	2.47
March	738	10	1.37
April	988	26	2.63
May	1464	81	5.53
June	1358	130	9.57

TABLE I (Cont'd)

DOVE RANDOM ROAD COUNT

DISTRICT V

Month	Miles Traveled	Doves Recorded	No. Doves Per 100 Miles
July, 1966	2425	244	10.06
August	3964	333	8.40
September	4374	177	4.05
October	2735	375	13.71
November	2526	610	24.15
December	1930	188	9.74
January, 1967	3136	85	2.71
February	2842	17	.60
March	3019	58	1.92
April	1899	30	1.58
May	3119	152	4.87
June	2863	105	3.67

DISTRICT VI

Month	Miles Traveled	Doves Recorded	No. Doves Per 100 Miles
July, 1966	3317	98	2.95
August	3457	77	2.23
September	2728	30	1.10
October	2255	50	2.22
November	1768	11	.62
December	2073	22	1.06
January, 1967	2182	19	.87
February	2983	32	1.07
March	3516	81	2.30
April	1907	40	2.10
May	3851	57	1.48
June	2735	39	1.43

TABLE I (Cont'd)

DOVE RANDOM ROAD COUNT

DISTRICT VII

Month	Miles Traveled	Doves Recorded	No. Doves Per 100 Miles
July, 1966	159	5	3.14
August	*		
September	119	4	3.36
October	*		
November	90	0	.00
December	55	0	.00
January, 1967	39	0	.00
February	*		
March	*		
April	*		
May	*		
June	*		

DISTRICT VIII

Month	Miles Traveled	Doves Recorded	No. Doves Per 100 Miles
July, 1966	*		
August	*		
September	*		
October	*		
November	53	0	0.00
December	*		
January, 1967	49	0	0.00
February	121	7	5.79
March	92	15	16.30
April	*		
May	*		
June	*		

* No Data

TABLE I (Cont'd)

DOVE RANDOM ROAD COUNT

STATEWIDE

Month	Miles Traveled	Doves Recorded	1966-67 No. Doves Per 100 Miles	1965-66 No. Doves Per 100 Miles
July, 1966	15,775	608	3.85	5.79
August	17,434	807	4.63	6.54
September	15,349	417	2.72	3.05
October	11,990	568	4.74	3.42
November	11,638	759	6.52	2.94
December	10,872	340	3.13	3.13
January, 1967	13,101	238	1.82	2.86
February	13,234	287	2.17	1.87
March	15,897	267	1.68	1.91
April	14,315	633	4.42	3.17
May	17,140	848	4.95	5.54
June	17,628	769	4.36	3.57

TABLE II

CALL-COUNT ROUTES

Comparison of 1966 and 1967 Routes

Route No.	No. of Doves Heard 1966	 1967
86-R	7	15
90-R	13	12
94-R	47	63
105-R	36	36
110-R	19	25
121-R	21	28
121A-R	0	0
122-R	1	1
134-R	5	6
135-R	23	21
137-R	5	0
137A-R	7	14
167-R	9	9
198-R	7	6
202-R	1	1
216-R	7	9
217-R	0	0
228-R	8	8
243-R	0	1
TOTAL	216	255
Average No. Per Route	11.4	13.4

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

MOURNING DOVE STUDY

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: 2 Title: Dove Trapping and Banding

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

A total of 5,305 doves was banded in the state from July 1, 1966 through June 30, 1967.

Recommendations:

The state's dove trapping and banding program should be operated as part of the over-all Eastern Management Unit Dove Research Study. A total of 4,000 doves should be banded during the pre-season period from June through August.

Objective:

This job is designed to band a minimum of 4,000 doves in the state in order to measure mortality with differential hunting regulations.

Techniques Used:

Trapping was done with funnel-type baited wire box traps which were operated at permanent stations throughout the trapping season. The stations were baited continuously through the trapping season and the traps set and run once each week.

Findings: The results of the trapping and banding program from July 1, 1966 through June 30, 1967, are included in Table III. A total of 5,305 doves was banded in the state.

Prepared by: ______________________
Larry Soileau
Study Leader

Approved by: ______________________
Robert Murry
Project Leader

DATE: ______________________

TABLE III

MOURNING DOVE TRAPPING AND BANDING

July 1, 1966 - June 30, 1967

Banding Location	Number
Bernice - Union Parish	205
Carencro - Lafayette Parish	44
Baton Rouge - E. Baton Rouge Parish	1
Bellwood - Natchitoches Parish	186
Bellvue - Bossier Parish	20
DeQuincy - Calcasieu Parish	9
Rockefeller Refuge - Cameron Parish	30
Covington - St. Tammany Parish	14
Doyline - Webster Parish	31
Camp Claiborne - Rapides Parish	123
DeRidder - Beauregard Parish	560
Cankton - St. Landry Parish	14
Newellton - Tensas Parish	209
Homer - Claiborne Parish	18
Fort Polk - Vernon Parish	308
New Iberia - Iberia Parish	393
Juanita - Beauregard Parish	7
Tallulah - Madison Parish	474
Tendal - Madison Parish	7
Monroe - Ouachita Parish	746
Wisner - Franklin Parish	1658
Neame - Vernon Parish	10
Oretta - Beauregard Parish	17
Rosepine - Vernon Parish	186
Singer - Beauregard Parish	11
Sunset - St. Landry Parish	24
Total - - - - - - - - - - - - - - -	5305

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

MOURNING DOVE STUDY

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: 3 Title: Dove Kill Estimation

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

Dove hunting in the Eastern Management Unit was estimated to involve 1,000,000 hunters who made 5,000,000 trips and killed over 21,000,000 birds. Within the state of Louisiana, an estimated total of 93,800 hunters killed 2,388,800 doves during 616,600 trips.

Recommendation:

The telephone survey as a method of estimating dove harvest should be continued as part of the Eastern Management Unit telephone kill survey.

Objective:

This job was designed to provide an estimated index of statewide dove harvest during the three segments of the hunting season and also contribute to the Eastern Management Unit estimate.

Techniques Used:

A random sample of residential telephones was selected and called by personnel of the Institute of Statistics, North Carolina State University. All telephone interviews were conducted immediately following the close of the hunting season.

Findings: Of the 4,100 telephone interviews attempted, 3,709 were completed. From the information obtained from the telephone interviews, estimated totals of hunters, trips and kill were calculated for the state. These estimates are presented below.

Estimated From Dove Hunters Residing in Households With a Telphone
1966-67 Hunting Season

Hunting Season Segment	Estimated Hunters	Estimated Trips	Estimated Kill
September 3-18	80,900	279,700	1,128,000
October 15-November 6	58,300	215,700	862,600
December 16-January 15	32,800	121,100	398,200

The estimated totals for the entire hunting season are 93,800 hunters, 616,600 trips and 2,388,800 doves killed in the state. The estimated totals for the entire Eastern Management Unit are 1,000,000 hunters, 5,000,000 trips and 21,000,000 doves killed.

Prepared by: ______________________
Larry Soileau
Study Leader

Approved by: ______________________
Robert Murry
Project Leader

DATE: ______________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

MOURNING DOVE STUDY

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: 4 Title: BandingAnalysis

Period Covered: July 1, 1966 through June 30, 1967

Abstract: A total of 38,439 doves were banded in the state between July, 1949 and June, 1967. Of this total 2,833 have been reported recovered by hunters thus far. A total of 287 doves banded outside the state have been reported recovered by hunters within the state during this same period.

Recommendations: This tabulation reveals the extent of dove banding and hunters recoveries which have occurred in the state between 1949 and 1967. A detailed analysis of this data as a student problem at the School of Forestry and Wildlife Management, Louisiana State University is recommended.

Objective: This job was designed to provide a tabulation of dove bandings and recoveries in the state from July, 1949 through June, 1967.

Techniques Used: Dove banding records and recovery data provided by the U.S. Fish and Wildlife Service were tabulated by personnel of Project FW-2R.

Findings: A total of 38,439 doves were banded in the state between July, 1949 and June, 1967. These are listed in the attached tables. Of this total, 2,833 have been recovered by hunters, while 287 doves banded outside the state have been reported recovered by hunters within the state. These recoveries are listed in the attached tables.

Prepared by: ______________________
Larry Soileau
Study Leader

Approved by: ______________________
Robert Murry
Project Leader

DATE: ______________________

LOUISIANA MOURNING DOVE BANDING
July, 1949 - June, 1967

	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
January	-	81	76	17	58	53	106	145	0	36
February	-	139	64	68	93	73	172	76	42	40
March	-	235	75	119	99	139	283	143	141	99
April	-	294	164	171	191	174	283	241	83	345
May	-	178	227	262	302	527	562	996	579	438
June	-	219	162	309	311	611	1,035	2,037	354	489
July	8	109	210	251	528	597	680	1,386	502	603
August	12	96	425	299	632	730	403	493	289	569
September	32	78	97	221	400	218	93	19	13	98
October	38	82	14	94	99	12	79	35	0	99
November	105	129	17	26	26	65	142	0	9	96
December	115	65	30	15	35	44	133	0	15	0
Unknown	0	0	0	0	0	6	0	0	0	0
TOTAL	310	1,705	1,561	1,852	2,774	3,249	3,971	5,571	2,027	2,912

LOUISIANA MOURNING DOVE BANDING
July, 1959 - June, 1967

	1959	1960	1961	1962	1963	1964	1965	1966	1967	Total
January	0	0	1	0	0	0	1	25	0	599
February	0	0	0	0	0	0	12	85	157	1,021
March	6	6	18	42	4	0	102	0	253	1,764
April	182	17	182	63	10	56	0	0	0	2,456
May	124	134	198	77	133	2	0	0	0	4,739
June	241	184	204	151	109	108	284	827	958	8,593
July	348	132	190	164	190	151	201	1,744	-	7,994
August	248	202	136	50	86	64	190	2,193	-	7,117
September	113	0	4	0	1	14	0	0	-	1,401
October	605	117	294	0	0	5	13	0	-	1,586
November	28	66	0	0	0	2	0	0	-	711
December	0	0	0	0	0	0	0	0	-	452
Unknown	0	0	0	0	0	0	0	0	-	6
TOTAL	1,895	858	1,227	547	533	402	803	4,874	1,368	38,439

DOVES BANDED IN LOUISIANA AND RECOVERED BY HUNTERS FROM JULY 1949 THROUGH JUNE 1967

STATE OF RECOVERY	NUMBER RECOVERED
Alabama	27
Arkansas	14
Florida	44
Georgia	6
Guatemala	9
Illinois	7
Kentucky	2
Louisiana	2,382
Mexico	25
Minnesota	1
Mississippi	48
Missouri	5
North Carolina	3
Oklahoma	3
Ontario	1
Salvador	1
South Carolina	1
Tennessee	7
Texas	247
TOTAL	2,833

DOVES BANDED OUTSIDE OF LOUISIANA AND RECOVERED BY HUNTERS IN LOUISIANA FROM JULY 1949 THROUGH JUNE 1967

STATE OF BANDING	NUMBER RECOVERED
Alabama	10
Arkansas	11
Colorado	1
Florida	15
Illinois	27
Indiana	13
Iowa	11
Kentucky	12
Massachusetts	2
Michigan	7
Minnesota	16
Mississippi	48
Missouri	23
Nebraska	3
New York	3
North Dakota	1
Ohio	20
Ontario	3
Pennsylvania	2
Saskatchewan	1
South Carolina	1

STATE OF BANDING (Cont'd)	NUMBER RECOVERED (Cont'd)
South Dakota	5
Tennessee	12
Texas	25
Virginia	1
Wisconsin	14
TOTAL	287

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

RABBIT INVESTIGATIONS

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: 1 Title: Rabbit Study - Population Trends

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

The annual index figure which is based on the number of rabbits observed per 100 miles of random daylight travel was 0.52 for the period covered in this report. This figure was an overall statewide average obtained from 172,605 miles of travel in the eight geographical districts. During the seven preceding study years the average was 0.45, 0.52, 0.55, 0.63, 0.66, 0.69 and 0.70 respectively.

Recommendations:

This job should be terminated. A final report showing analyses and comparisons of a backlog of data that is available will be prepared.

Objective:

A better understanding of seasonal and annual fluctuations in rabbit numbers is desirable for management planning. This job was designed to determine population or activity trends of rabbits throughout the state.

Techniques Used:

This is a year-round job that is performed while conducting routine duties in the various districts. Data are collected and analyzed on a district basis. The work is assigned to all biologists and other designated personnel of the Pittman-Robertson section of the Fish and Game Division. This includes district supervisors, district biologists, project leaders, study leaders and biological aides.

Method used to obtain the data is as follows: When traveling to perform routine duties, the driver of the vehicle records the number of dead and alive rabbits observed. The speedometer reading is recorded at the beginning and completion of each trip. This information is kept only during daylight hours and by day, month and year. Random road count data are mailed to the study leader at the end of each month.

Findings:

Table I through IV show results of the random road counts by district for the period July, 1966 through June, 1967. Table V presents the statewide random road count on a monthly and annual basis.

District I is located in northwest Louisiana. It is comprised of the following parishes: Caddo, Bossier, Webster, Claiborne, DeSoto, Red River, and Bienville. Table I shows a total of 54,048 miles of random daylight travel logged during the twelve month period. The number of rabbits recorded per 100 miles of travel was 0.16, the previous year figure was 0.22 and in 1964-65 it was 0.26. In 1963-64 was 0.40, 0.54 in 1962-63, 0.49 in 1961-62, 0.45 in 1960-61, and in 1959-60 the figure was 0.14.

The parishes of Union, Morehouse, West Carroll, East Carroll, Richland, Ouachita, Lincoln and Jackson comprise District II which is in northeast Louisiana. In this district 5,382 miles of random travel were recorded during the year. The number of rabbits recorded for each 100 miles of travel was 0.87, for the previous three years the figure was 0.35, 0.45 and 0.85, respectively. In 1962-63 it was 0.91 and in 1961-62 the figure was 1.22. In 1960-61 the figure was 1.19.

District III is made up of six parishes in central and west-central Louisiana. They are Winn, Grant, Rapides, Natchitoches, Sabine and Vernon. For this District the total number of random miles logged was 33,729 and the average number of rabbits recorded for each 100 miles of travel was 0.78. During the previous year the figure was 0.61. Two years prior to this it was 0.77. In 1963-64 it was 0.61 and in 1962-63 it was 0.62. In 1961-62 the figure was 0.71.

District IV is comprised of Franklin, Caldwell, LaSalle, Catahoula, Madison, Tensas and Concordia. It is located in east-central Louisiana. A total of 11,065 random miles was recorded during the period covered in this report. The average number of rabbits tallied per 100 miles of travel was 0.26. Over the previous twelve month period a figure of 0.52 was recorded. In 1964-65 it was 0.48, 0.36 in 1963-64 and in 1962-63 it was 0.32. In 1961-62 the figure recorded was 0.42.

The following parishes in southwest Louisiana make up District V: Beauregard, Allen, Evangeline, Jeff Davis, Acadia, Calcasieu, Cameron and Vermilion. The period covered in this report showed 34,832 miles logged. In this district the average number of rabbits recorded per 100 miles was 0.75. It was 0.56 in 1965-66, 0.75 in 1964-65 and 0.73 in 1963-64. For the two years prior to that the figure was 0.63 and 0.81 respectively.

Seven parishes in south-central Louisiana are in District VI. It is comprised of Avoyelles, St. Landry, Pointe Coupee, St. Martin, Lafayette, West Baton Rouge and Iberville. A total of 32,772 miles of random travel was recorded during the twelve month period. For each 100 miles of travel the average number of rabbits recorded was 0.63. During the previous three study periods the figure was 0.44, 0.45 and 0.52, respectively. In 1962-63 it was 0.66 and 0.88 in 1961-62.

District VII comprises nine parishes in southeast Louisiana. They are East Feliciana, West Feliciana, St. Helena, Tangipahoa, Washington, St. Tammany, Livingston, East Baton Rouge and Ascension. Randomly traveled miles recorded in this district during the twelve month period amounted to 462. The average number of rabbits recorded per 100 miles was 0.22. In 1965-66 the figure was 0.28. For the five study years previous to this the figure was 0.24, 0.57, 0.51, 0.27 and 0.20, respectively.

District VIII comprises the remaining parishes of which most are located along the coast in southeast Louisiana.

During the twelve month period 315 random miles were logged. The average number of rabbits recorded per 100 miles of travel was 4.76. For the previous three years the figure was 0.90, 0.04, and 0.25, respectively.

In conclusion, the rabbit random road counts were conducted in each of the eight districts during the period covered in this report, July 1, 1966 to June 30, 1967. The data was collected from a total of 172,605 randomly traveled miles during the study period. For the eight districts the overall average number of dead and alive rabbits recorded for each 100 miles of travel was 0.52. See Table V. Over the previous seven years of study it was 0.45, 0.52, 0.55, 0.63, 0.69 and 0.70, respectively.

Prepared by: ______________________ Approved by: ________________
Jack O. Collins Robert Murry
Study Leader Project Leader

DATE: ______________________

TABLE I

ANNUAL RABBIT RANDOM ROAD COUNTS BY DISTRICTS

District I

Month	No. Miles Traveled	Rabbits Recorded			No. Rabbits Recorded Per 100 Miles of Travel
		Dead	Alive	Total	
July, 1966	5072	3	10	13	0.26
August	2305	2	4	6	0.26
September	4924	3	2	5	0.10
October	2825	2	0	2	0.07
November	4616	6	0	6	0.13
December	5126	5	0	5	0.10
January, 1967	6355	9	0	9	0.14
February	4539	1	1	2	0.04
March	3589	3	0	3	0.08
April	4763	6	1	7	0.15
May	5019	0	8	8	0.16
June	4915	1	18	19	0.39
TOTALS	54,048	41	44	85	0.16
District II					
July, 1966	2235	0	3	3	0.13
August	2276	0	0	0	0.00
September	-	-	-	-	-
October	-	-	-	-	-
November	-	-	-	-	-
December	-	-	-	-	-
January, 1967	-	-	-	-	-
February	-	-	-	-	-
March	-	-	-	-	-
April	-	-	-	-	-
May	-	-	-	-	-
June	871	4	40	44	5.05
TOTALS	5382	4	43	47	0.87

TABLE II

ANNUAL RABBIT RANDOM ROAD COUNTS BY DISTRICTS

District III

		Rabbits Recorded			
Month	No. Miles Traveled	Dead	Alive	Total	No. Rabbits Recorded Per 100 Miles of Travel
July, 1966	2039	10	4	14	0.69
August	3098	10	1	11	0.36
September	1508	1	0	1	0.07
October	3470	18	1	19	0.55
November	1770	13	1	14	0.79
December	1563	21	0	21	1.34
January, 1967	1117	26	0	26	2.33
February	2668	30	0	30	1.12
March	4943	46	0	46	0.93
April	4788	49	1	50	1.04
May	2507	14	4	18	0.72
June	4258	10	2	12	0.28
TOTALS	33,729	248	14	262	0.78

District IV

July, 1966	528	0	0	0	0.00
August	2334	1	6	7	0.30
September	1696	0	0	0	0.00
October	705	2	0	2	0.28
November	815	3	0	3	0.37
December	125	1	1	2	1.60
January, 1967	223	0	0	0	0.00
February	81	2	0	2	2.47
March	738	1	0	1	0.13
April	988	2	1	3	0.30
May	1464	2	2	4	0.27
June	1368	2	3	5	0.37
TOTALS	11,065	16	13	29	0.26

TABLE III

ANNUAL RABBIT RANDOM ROAD COUNTS BY DISTRICTS

District V

Month	No. Miles Traveled	Rabbits Recorded			No. Rabbits Recorded Per 100 Miles of Travel
		Dead	Alive	Total	
July, 1966	2425	3	21	24	0.99
August	3964	5	6	11	0.28
September	4374	4	3	7	0.16
October	2735	12	0	12	0.44
November	2526	32	0	32	1.27
December	1930	15	0	15	0.78
January, 1967	3136	27	0	27	0.86
February	2842	14	0	14	0.49
March	3019	25	2	27	0.89
April	1899	25	2	27	1.42
May	3119	7	30	37	1.19
June	2863	9	20	29	1.01
TOTALS	34,832	178	84	262	0.75

District VI

July, 1966	3317	17	0	17	0.51
August	3457	5	3	8	0.23
September	2728	5	3	8	0.29
October	2255	5	0	5	0.22
November	1768	3	0	3	0.17
December	2073	25	1	26	1.25
January, 1967	2182	28	2	30	1.37
February	2983	22	1	23	0.77
March	3516	36	1	37	1.05
April	1907	14	3	17	0.89
May	3851	26	1	27	0.70
June	2735	3	2	5	0.18
TOTALS	32,772	189	17	206	0.63

TABLE IV

ANNUAL RABBIT RANDOM ROAD COUNTS BY DISTRICTS

District VII

Month	No. Miles Traveled	Rabbits Recorded			No. Rabbits Recorded Per 100 Miles of Travel
		Dead	Alive	Total	
July, 1966	159	0	0	0	0.00
August	-	-	-	-	-
September	119	0	0	0	0.00
October	-	-	-	-	-
November	90	1	0	1	1.11
December	55	0	0	0	0.00
January, 1967	39	0	0	0	0.00
February	-	-	-	-	-
March	-	-	-	-	-
April	-	-	-	-	-
May	-	-	-	-	-
June	-	-	-	-	-
TOTALS	462	1	0	1	0.22

District VIII

July, 1966	-	-	-	-	-
August	-	-	-	-	-
September	-	-	-	-	-
October	-	-	-	-	-
November	53	0	0	0	0.00
December	-	-	-	-	-
January, 1967	49	2	3	5	10.20
February	121	2	3	5	4.13
March	92	5	0	5	5.43
April	-	-	-	-	-
May	-	-	-	-	-
June	-	-	-	-	-
TOTALS	315	9	6	15	4.76

TABLE V

ANNUAL RABBIT RANDOM ROAD COUNTS - STATEWIDE

Month	No. Miles Traveled	Rabbits Recorded Dead	Alive	Total	No. Rabbits Recorded Per 100 Miles of Travel
July, 1966	15,775	33	38	71	0.45
August	17,434	23	20	43	0.25
September	15,349	13	8	21	0.14
October	11,990	39	1	40	0.33
November	11,638	58	1	59	0.51
December	10,872	67	2	69	0.63
January, 1967	13,101	92	5	97	0.74
February	13,234	71	5	76	0.57
March	15,897	116	3	119	0.75
April	14,345	96	8	104	0.72
May	15,960	49	45	94	0.59
June	17,010	29	85	114	0.67
TOTALS	172,605	686	221	907	0.52

Overall Average - 0.52

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

RABBIT INVESTIGATIONS

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: 5 Title: Rabbit Study - Habitat Manipulations

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

Twelve two acre plots were marked off on the Saline Wildlife Management Area to study swamp rabbits and habitat relationships. Different degrees of timber thinning will be employed on the plots. Four plots will be used as controls, four will have 50 per cent of timber cut and removed, and on the other four 25 per cent of the timber stand will be removed.

A 100 per cent basal area survey was made of all stems 1" dbh and up. All timber marking was completed and logging is complete on two of eight plots to be cut. Manpower shortages delayed completion of this phase of job. After logging is completed rabbit proof fences will be built around each plot.

All needed fence materials were purchased and procurement of swamp rabbits is underway.

Recommendations:

Efforts should be intensified to have initial phases of this job that include logging of plots and fence construction completed by February 1, 1968.

Objective:

To investigate techniques for developing maximum swamp rabbit (Sylvilagus aquaticus) populations through habitat alterations.

Techniques Used:

Twenty-four acres of woodland on the Saline Wildlife Management Area will be enclosed with a five foot high rabbit proof wire. This area will be divided into twelve two acre blocks using rabbit proof partition wire 5' high. An outside hog and cattle proof fence will be constructed around the entire area.

Habitat manipulations will be employed. The plot treatments consisted of different degrees of timber thinning. Each treatment has four replications and there are four control plots.

Swamp rabbits will be procured and kept in holding pens until the timber is thinned and fence construction is completed. At that time an identical number of pairs of unbred rabbits are to be placed in each pen. At the close of the breeding season all rabbits will be counted.

Findings:

A property survey of the twenty-four acres was completed and it was divided into 12 two acre blocks in December, 1966. A ten foot wide outside fence right-of-way was cleared around the 24 acres at that time. See Diagram I.

For the purpose of determining timber densities and composition a 100 per cent basal area survey of all plots was made. All species 1" dbh and up were included in the survey which was conducted in February and early March, 1967. See results of the basal area survey in Table I.

Plots were randomly selected for the different degrees of timber thinning. The four selected as controls were plots 12, 10, 7 and 1. Plots 11, 8, 4 and 3 were in the 50 per cent cut category and plots 2, 6, 5 and 9 were drawn for the 25 per cent cut. See Table II.

For marking trees to be cut and removed from plots, a forester viewpoint on timber stand improvement was employed. When possible, healthier, dominant, more vigorous growing stems were not

marked for cutting. On the plots where fifty per cent of the stand was to be cut, a standard 60 square feet of basal area was left unmarked. Ninety square feet was the standard basal area to be left on the plots in the twenty-five per cent category.

Logging is complete on 3 and 4. Six remain to be cut. Delays in cutting resulted from man power shortages.

It is anticipated that logging will be completed and all fences built before February, 1968.

Posts, wire and other fencing needs were purchased and are at the study site.

In addition, procurements of swamp rabbits is underway.

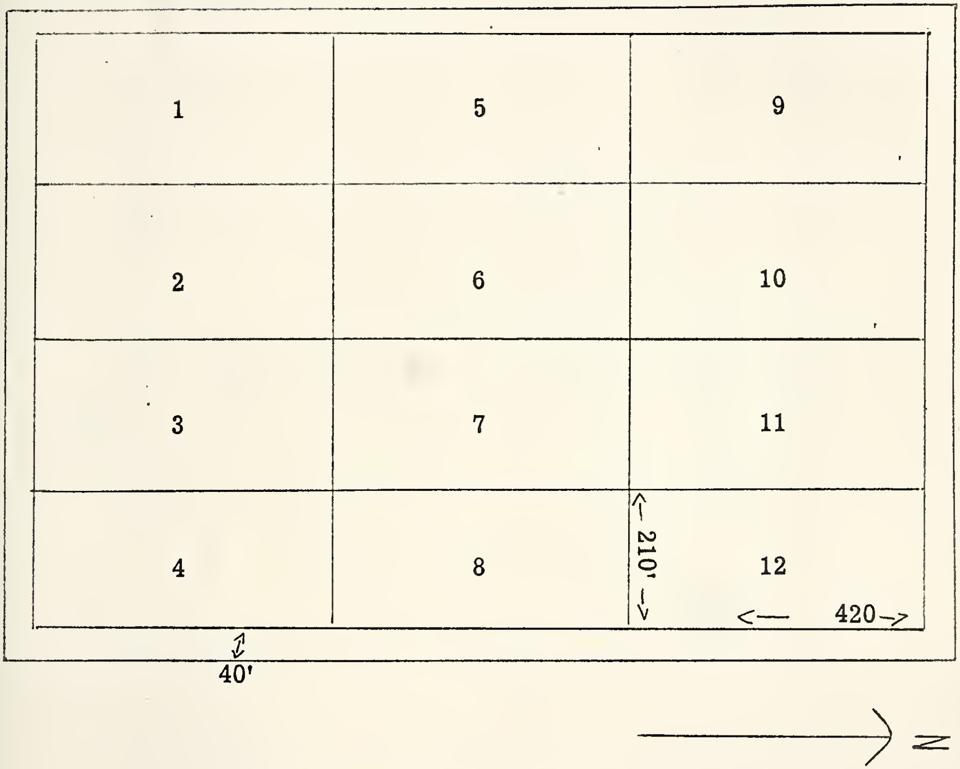
Prepared by: ____________________
Jack O. Collins
Study Leader

Approved by: ____________________
Robert Murry
Project Leader

DATE: ____________________

Diagram I

Saline Swamp Rabbit Study
Plot Layout



Treatments (Random Selection) (Basal Area)

Control - plots #12, 10, 7, 1.
50% Cut - plots #11, 8, 4, 3.
25% Cut - plots #2, 6, 5, 9.

Results of Basal Area Survey Conducted on Twelve Two Acre Swamp Rabbit Study Plots
Saline Wildlife Management Area in February and March, 1967 (Basal area expressed in square feet)

Plots 1-4

	1		2		3		4	
	Stems	BA	Stems	BA	Stems	BA	Stems	BA
Ash (Fraxinus pennsylvanica)	14	13.9	29	23.9	14	14.9	9	7.9
Bitter Pecan (Carya aquatica)	36	24.8	52	31.4	60	37.2	13	12.1
Deciduous Holly (Ilex decidua)	132	2.9	288	6.8	113	4.6	107	2.9
Cedar Elm (Ulmus crassifolia)	22	16.7	27	13.9	31	30.2	24	21.1
Hackberry (Celtis laevigata)	9	3.2	6	3.6	5	3.4	2	0.4
Haw (Crataegus spp.)	88	14.6	85	17.2	70	12.8	94	17.2
Honey Locust (Gleditsia triacanthos)	7	6.2	3	2.4	6	1.4	12	6.1
Maple (Red) (Acer rubrum)	8	3.2	6	2.5				
Nuttall Oak (Quercus nuttalli)	14	7.2	1	3.1			3	5.5
Overcup Oak (Quercus lyrata)	27	22.5	12	14.5	6	7.8	9	10.5
Persimmon (Diospyros virginiana)	37	2.4	79	4.4	59	4.2	72	4.4
Swamp Privet (Forestiera acuminata)	77	3.0	10	0.1	14	0.3		
Sweet Gum (Liquidambar styraciflua)					1	1.7		
Water Oak (Quercus nigra)			2	10.9	2	2.2	7	6.3
Willow Oak (Quercus phellos)	7	8.4	4	8.9			5	3.7
Other								
Computed Totals	478	129.4	604	143.9	381	120.8	357	98.2

Results of Basal Area Survey Conducted on Twelve Two Acre Swamp Rabbit Study Plots
Saline Wildlife Management Area in February and March, 1967 (Basal area expressed in square feet)

Plots 5-8

	5		6		7		8	
	Stems	BA	Stems	BA	Stems	BA	Stems	BA
Ash (Fraxinus pennsylvanica)	24	16.4	21	12.8	21	15.4	24	19.8
Bitter Pecan (Carya aquatica)	4	4.3	18	11.7	17	13.3	52	33.2
Deciduous Holly (Ilex decidua)	201	5.4	128	3.1	136	3.7	126	6.0
Cedar Elm (Ulmus crassifolia)	34	30.1	19	18.1	28	11.9	12	15.5
Hackberry (Celtis laevigata)	13	7.8	4	1.3	8	2.7	7	4.5
Haw (Crataegus spp.)	80	15.5	124	18.3	74	14.5	104	20.5
Honey Locust (Gleditsia triacanthos)	8	8.9	11	11.2	7	8.4	4	4.5
Maple (Red) (Acer rubrum)	1	0.1						
Nuttall Oak (Quercus nuttalli)			1	0.8	2	0.1		
Overcup Oak (Quercus lyrata)	7	8.1	22	24.6	9	9.2	8	5.1
Persimmon (Diospyros virginiana)	54	2.3	123	4.9	42	2.7	67	4.4
Swamp Privet (Forestiera acuminata)								
Sweet Gum (Liquidambar styraciflua)								
Water Oak (Quercus nigra)					1	8.7	5	24.0
Willow Oak (Quercus phellos)	4	3.9	6	4.9	4	3.4	2	2.4
Other								

Resultsof Basal Area Survey Conducted on Twelve Two Acre Swamp Rabbit Study Plots
Saline Wildlife Management Area in February and March, 1967 (Basal area expressed in square feet)

Plots 9-12

	9		10		11		12	
	Stems	BA	Stems	BA	Stems	BA	Stems	BA
Ash (*Fraxinus pennsylvanica*)	12	11.2	24	21.6	30	26.0	18	7.8
Bitter Pecan (*Carya aquatica*)	14	10.8	9	9.0	22	14.7	37	20.9
Deciduous Holly (*Ilex decidua*)	283	7.6	139	3.0	141	4.2	104	2.9
Cedar Elm (*Ulmus crassifolia*)	27	30.9	22	25.4	19	10.7	22	25.0
Hackberry (*Celtis laevigata*)	4	1.3	8	2.8	10	5.1	12	4.6
Haw (*Crataegus spp.*)	100	19.2	105	22.2	120	25.1	69	12.4
Honey Locust (*Gleditsia triacanthos*)	9	8.9	10	11.8	7	7.1	8	10.8
Maple (Red) (*Acer rubrum*)	2	0.1						
Nuttall Oak (*Quercus nuttalli*)					3	4.1	1	1.7
Overcup Oak (*Quercus lyrata*)	9	9.7	8	9.7	17	16.3	14	12.1
Persimmon (*Diospyros virginiana*)	70	4.7	37	2.2	31	1.7	44	7.1
Swamp Privet (*Forestiera acuminata*)							43	0.9
Sweet Gum (*Liquidambar styraciflua*)							1	0.2
Water Oak (*Quercus nigra*)	1	2.3	1	2.3	1	0.1	4	14.4
Willow Oak (*Quercus phellos*)	4	15.5	2	4.1	1	0.8		
Other	13	1.1	1	0.1			4	0.5
Computed Totals	548	123.5	366	114.3	402	116.0	381	123.6

TABLE II

Twelve Plots Selected for Different Timber Treatments and Total Basal Area (Expressed in Square Feet)

Control		50% Cut		25% Cut	
Plot No.	No. Feet	Plot No.	No. Feet	Plot No.	No. Feet
12	123.574	11	115.979	2	143.945
10	114.274	8	140.110	6	111.805
7	94.241	4	98.168	5	102.721
1	129.402	3	120.809	9	123.500
	461.491		475.066		481.971

JOB COMPLETION REPORT
RESEARCH PROJECT SEGMENT
SPECIAL STUDIES

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: IX-12 Title: Tranquilizer Confinement of Birds

Period Covered: July 1, 1966 - June 30, 1967

Abstract: The effects of the oral tranquilizer Tranimul on penned bobwhite quail (*Colinus virginianus*) have been studied. A new drug method of administration was tested and adopted. Dosage rate used was determined during earlier investigations with the drug. Tranimul was mixed with a commercial game bird laying ration and offered free choice to the test birds. Twenty-one pairs of wild-trapped bobwhite quail were used as test animals in this study. Each pen was stocked with one male and one female bird. Eleven pens were fed calibrated dosages of Tranimul and ten pens were kept as controls. Egg production and egg fertility for each group was measured. Data

obtained suggested that egg production was not influenced by the administration of the drug Tranimul.

Recommendations: On the basis of data obtained during two years of intensive investigation of the effects of Tranimul on penned game birds, it is recommended that additional study in this regard be discontinued.

Objectives: The primary objective of this study was to evaluate the oral tranquilizer Tranimul as a possible agent to increase egg production of penned wild game birds. This would give a much needed boost to the exotic bird program in Louisiana. It was also desired to devise and evaluate methods for administering oral tranquilizers to penned game birds. Egg fertility was to be measured and compared to control groups. The data obtained during this study was used to determine if there were any possible applications to the use of Tranimul in the propogation of certain exotic game birds in a hatchery situation and thus provide additional birds for the exotic bird stocking program.

Techniques Used:

All bird pens holding test birds used in this study were of identical design. Each pen was eight feet long, six feet wide, and three feet high. Framing was made using two inch by two inch wolmanized lumber. The entire frame was covered with one inch chicken wire. On the rear of each pen was an access gate approximately twenty-four inches by thirty inches high. This gate was fitted with self-closing spring-loaded hinges and a latch. Also on the rear of the pen was a removable feed and water shelter approximately thirty inches long and twelve inches high with a galvanized iron roof sloping from front to rear. The design of this pen is similar to that widely used in exotic bird propagation programs throughout the Southeastern United States. Each pen was equipped with identical feed and watering devices. Water devices consisted of one quart Mason jars inverted into specially fitted plastic bowls that allowed the water to be metered out on demand. Feeders consisted of

galvanized metal troughs approximately twelve inches in length with slide-on galvanized metal tops having circular openings distributed lengthwise on the top so as to allow birds to insert their heads into the troughs. Each pen also contained a shelter hutch in the middle of the pen. This shelter was made by bending a three foot section of twenty-four inch corrugated galvanized iron roofing in the middle so as to form an inverted v-shaped shelter. Twenty-one holding pen units having the design and equipment previously described were used during this study. The entire study area was enclosed in varmint-proof fence eighty feet long and sixty feet in width. This fence was constructed using seven foot creosote posts having three inch tops and sunk two feet into the ground. These posts were placed on eight foot centers. Thirty-nine inch hog wire was attached to the posts with 1-3/4 inch staples. One inch chicken were having a width of forty-eight inches

was fastened to the outside of the fence in a manner so that thirty-six inches of the chicken wire would extend vertically up the fence and twelve inches of the chicken wire would lie on the ground in order that it could be subsequently buried to a depth of approximately four inches. The one inch chicken wire was attached to the underlying hog wire by means of pig rings. An electric fence charger was connected to the entire perimeter of the fence in order that a charged wire could be maintained four inches from the ground and eight inches away from the bottom of the fence. An additional charged line was placed in a position level with the top of the one inch chicken wire panel and extended out away from the fence approximately four inches. This line was arranged in this manner so as to discourage any varmints that might succeed in passing the first wire from successfully climbing the outside of the fence. Gates used for entering the study area were

kept padlocked and charged during the times when someone was not in the pen.

Bobwhites used for the purpose of this investigation were obtained by live-trapping using scratch grain as bait. Traps were the same as those used in dove trapping operations.

All birds were fed Purina Game Bird Breeder Layena. This is a commercially prepared mixture that is nutritionally balanced specifically for laying birds. This is also the same feeding ration used in dosage rate trials.

Measured amounts of Tranimul were mixed with approximately one pint of Karo syrup until a smooth, creamy paste was obtained. All lumps were carefully worked out of the mixture and a homogenous texture was obtained. This mixture was applied to selected larger food particles removed from the bulk supply of feed by sifting the feed through a U. S. Standard No. 10 Seive. These

selected particles were placed in a large porcelain dish pan where the mixture of syrup and Tranimul was slowly blended into the feed. After adding the mixture to the feed, care was taken to agitate the treated feed in order that an even distribution of the drug could be made throughout the supply of larger feed particles. This treated feed was then carefully blended into the bulk supply of feed. Feed was treated in 100 pound lots.

Dosage rate used in this investigation was determined in earlier studies with Tranimul. During this investigation a dosage of approximately 6 mg. per bird per day was administered. This was calculated to be the daily intake by assuming that the caged bird consumed approximately 15 grams of food per day. This was determined in previous studies concerning daily food intake of caged bobwhites in the preliminary phases of this investigation. Administration of the treated feed began on June 1, 1966, and

continued until the birds were sacrificed on September 1, 1966.

Cages were checked twice daily for eggs. Inspections of cages for eggs were made at 11:00 AM and 4:00 PM. Collected eggs were stored at approximately 60° F. for no longer than one week before incubation was begun. Fertility was checked after twenty-one (21) days of incubation.

Findings:

Only twelve (12) eggs were produced by caged bobwhites during the entire 1966 breeding season. Nine (9) eggs were produced by one pen of birds receiving the treated ration. One pen of the birds being used as controls produced only three (3) eggs. Of the nine eggs produced by the treated birds, six were found to be fertile. All of the eggs produced by the untreated birds (three) were infertile.

Data obtained from egg production and fertility determination was not sufficient for a detailed analysis. However, it is readily apparent that there is little or

no influence on egg production brought about by the administration of Tranimul, or at least this tranquilizing agent does not bring about a detectable increase in egg production in penned wild bobwhites. While there were more eggs produced by treated birds than untreated birds, this comparison can be made on the basis of only two pairs of bobwhites and an extremely small sample size. It is quite likely that highly variable individual egg production characteristics of penned wild bobwhites are responsible rather than the influence of the tranquilizing agent.

Prepared by:
Dan Dennett, Jr.
Deer Study Leader

Approved by:
Robert E. Murry
Project Leader

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

SPECIAL STUDIES

State of: Louisiana

Project No.: W-29-R-14 Name: Statewide Wildlife Investigations

Job No.: IX-13 Title: Lead Shot on Catahoula Lake

Abstract:	Study plots were found to be adequately fenced and marked.
Recommendations:	Because of the potential importance of ingested lead shot mortality on Catahoula Lake, this study should be seen to completion.
Objectives:	(1) To determine how rapidly lead shot sinks in different soils in the lake bed, (2) how rapidly lead shot oxidizes, and (3) what influence the rooting of hogs has on the availability of lead shot to waterfowl.
Techniques Used:	Periodic checks of fences and the markings of unfenced plots were made. The fences were repaired as needed.
Findings:	Study plots were found to be adequately fenced and marked.

Prepared by: ______________________
Dewey Wills

Approved by: ______________________
Robert E. Murry
Project Leader

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

BEAR INVESTIGATIONS

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: 1 Title: Bear Inventory

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

Notes on bear signs or bear sighted were kept by biologists while making deer range surveys. Of bear that had been brought into the state since 1964 and released, 33 were recaptured and returned to the release site and 29 have been verified as being killed.

Recommendation:

This job should be continued in conjunction with deer range surveys.

Objectives:

The objectives of this job are: (1) to compile a record of locations and number of bear for future management and (2) to keep up with bear released in Louisiana.

Techniques Used:

The surveys were made in conjunction with the deer range surveys and used the same techniques as described under Work Plan 1, Job 6. At stops made on the deer range survey, notes were kept as to bear sighted or signs such as tracks, droppings, clawings or scratchings on logs or trees. Local people were to be contacted to get any additional information needed.

A bear release program with animals trapped in Minnesota has been conducted in Louisiana during the past three summers. This operation was financed by state funds. Each bear was tagged in each ear with a monel tag.

In the summer of 1964, 28 bear were released in the Atchafalaya River Swamp, in Pointe Coupee Parish.

In 1965, the releases consisted of 55 animals. Forty-six of these were released in the Atchafalaya River Swamp where releases were made in 1964. Nine bear were released in Madison Parish.

The releases of 1966 were made up of 55 bear. Twenty-four of these were released in Madison and Tensas Parishes and the remainder in the Atchafalaya River Swamp in the area of previous releases.

Numerous reports of bear being seen or damage complaints throughout the state were investigated. Reports of bear being killed by automobiles or shot were investigated. Some bear showing up around people's houses, especially in town, were caught and returned to the original release site. Most of these bear were caught by the use of the Cap-chur gun and sucostrin.

Findings:

Biologists making deer range surveys looked for bear signs. Bear signs were noted and reported on in two deer range survey reports. These were for areas in Pointe Coupee and St. Landry Parishes. These areas are near the Atchafalaya River Swamp where bear were released. Other deer range surveys in other areas state no bear signs were observed. However, one deer range survey made in February and March, 1967, on the Fort Polk Game Management Area does state that tracks of one bear were verified there in November of 1966.

Of the bear released in 1964, 14 animals have been verified as being killed. Of those killed 10 were shot, three were hit by automobiles and one died of an overdose of sucostrin. Four of these were killed in Mississippi. One of these was approximately 260 air miles from the release point. Twelve of the bear released during this year were caught and taken back to the release point.

Of the bear released in 1965, nine have been verified as being killed. Three were captured and taken back to the release point.

Of the bear released in 1966, six have been verified as being killed. Another bear not tagged was also shot and killed. Eighteen were captured and returned to the release point.

One of the bear released in 1966 and included in those killed, was shot near Canton, Mississippi, in February, 1967. This bear came out of a hollow log and a quail hunter shot her. This female had three cubs in the log. This animal was released in Madison Parish on July 26, 1966. This is the first known reproduction from bear brought in from Minnesota.

Numerous complaints of the presence of bear were investigated.

Prepared by: ____________________ Approved by: ____________________

Louis E. Brunett
Study Leader

Robert Murry
Project Leader

DATE: ____________________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

EXOTIC BIRD STUDY

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: X1-1 Title: Gum Cove Francolin

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

The black francolin appears to be well established on the Gum Cove area and within a five mile radius of the initial release site.

A francolin-quail collection was made to determine the physical condition of these birds and to analyze and compare the crop contents of these two species. Significant differences in the food habits of quail and francolins were noted. Plant material made up the bulk of the quail's diet while animal material made up the greater percentage of the francolin's intake. Important quail food items were seeds of black cherry and legumes, and leafy greens. Small snails, slugs, beetles and larvae were important food items found in francolins.

Two call-count routes were run. The first was run in April 1967 and an average of .58 calling males was heard per stop as compared to 1.25 heard calling in 1966. The second route was established and run this spring. Only one calling bird was heard.

Recommendations:

Continue running the established call-count routes and also make frequent visits and inquiry in the surrounding area in efforts to keep a running account of the status and progress of the black francolin in southwestern Louisiana.

Objective: To provide an accurate chronicle on the status of the black francolin in Cameron and Calcasieu Parishes, Louisiana.

Techniques Used: Much of our information came from direct observations made by the study leader, other project personnel and from reliable individuals traveling or working in the release vicinity.

Arrangements were made with the Southeast Cooperative Wildlife Disease Study to collect ten black francolins and ten bobwhite quail at Gum Cove for determining the physical condition of these birds. This bird collection provided an opportunity to collect crops of both species and to make a follow-up comparison study of the good habits. Collecting was carried out during a four day period (January 31-February 3, 1967) in order that the SCWDS personnel would have freshly killed specimens to work with each day.

Two trained pointing dogs were used to hunt both species and only one shooter was used. Quail were collected at random, but no more than two were collected from the same covey. Black francolins, being somewhat solitary, were also collected at random.

Individual crop contents were placed in formalin, labeled, and examined the following week. Weights were made using a Mettler electronic balance after crop material was air dried. Volume was determined using a graduated cylinder. Occular estimates were made in determining species percentages of green leafy material.

A systematic call-count route was established north of the release area. This route consists of 66 stops; each stop being approximately one mile apart. Listening time at each stop was ten minutes and segments of the route were run between 6 A.M. and 10 A.M. This allowed about eighteen ten-minute listening stops per morning. This call-count route was run on May 9, 10, 11 and 18, 1967.

Another call-count route was run on April 26, 1967 in the release area. This route consists of twelve stops; listening time at each of these stops was three minutes. The number of francolins seen or heard calling was recorded at each stop and also while driving between stops.

Findings:

Numerous visits to the release area were made by the study leader and some were made by the project leader and district personnel. Black francolins were heard or observed on most visits to the area between March and September. No broods were observed by project personnel, however, birds identified as juveniles were observed during late summer, 1966. Two broods were reportedly observed by reliable individuals working in the release area after July 1, 1966. A good number of adult birds was observed during the spring of this year.

Food Habits - Ten francolins and ten bobwhite quail were collected during January 31-February 3, 1967 primarily for determining their physical condition. Seven males and three females made up the francolin collection. The findings of this disease and physical checkup will be published by the SCWDS. The results of the crop analysis follows:

> Significant differences in the food habits of bobwhite quail and black francolins were apparent. The quail's diet consisted mostly of plant material - making up more than ninety per cent of the total volume, while it contributed only about thirty-eight per cent of the francolin's intake. Green leafy material was the most important item of vegetable nature in both quail and francolins. Constituents of these greens were similar in both species including *Geranium sp.*, *Oxalis sp.*, and *Ranunculus sp.*

Seeds - Seeds made up over thirty-six per cent of the quail's crop contents but only about ten per cent of the francolin's. Black cherry and legumes were the most important seeds eaten by quail while legumes, mostly *Sesbania macrocarpa,* made up the bulk of the francolin's seed diet.

Animal Material - Animal material constituted almost sixty-two per cent of the francolin's crop contents while it made up less than ten per cent of the quail's. Small snails were the most important single food item of the francolins - making up nearly twenty-three per cent of the total. Sixty-five tiny snails were found in one francolin crop. Snails were found in two-thirds of the francolin crops examined. Cranefly larvae was also an important francolin food item - making up more than eighteen per cent of the total. Sixty-three cranefly larvae were found in one crop. These larvae were present in two-thirds of the francolin crops examined. Slugs were found in one-third of the francolin crops and made up almost eleven per cent of the total. Other animal food items eaten by francolins included cucumber beetles, other beetles and ants.

Animal material constituted less than ten per cent of the quail's food and most of this was in the form of cranefly larvae - the same larvae that was an important francolin food item. Frequency of occurrence was one-third as compared to two-thirds in the francolin. The only other animal materials found in the quail crops were a few cucumber beetles and a very few other beetles along with one ant.

Grit - A trace of grit occurred in thirty per cent of the quail crops but more was found in the francolin contents; however, in going through the gizzards of the birds a substantial amount of grit was found in both species. Quail gizzard grit was composed of virtually all iron compactions and was slightly smaller than the francolin gizzard grit. Francolin gizzard grit consisted of about fifty per cent iron compactions and fifty per cent mineral rock.

TABLE I

BLACK FRANCOLIN CROPS (6)

Type Food	Percent of Occurrence	Volume		Weight	
		cc	%	gm.	%
Animal					
Pulmonata					
Succinea salleana (snails)	66.7	6.6	22.60	2.27	19.79
Polygyra jacksoni (snail	16.7	T	T	T	T
Deroceras laeve (slugs)	33.3	3.2	10.96	1.50	13.08
Diptera (flies)					
Tipulidae (larvae)	66.7	5.3	18.15	1.39	12.12
Culicidae	16.7	T	T	T	T
Coleoptera (beetles)					
Chrysomelidae					
Diabrotica decimpunctata	50.0	2.3	7.88	.53	4.62
Galerucella sp.	16.7	T	T	T	T
Phaedon sp.	16.7	.1	.34	.02	.17
Carabidae	16.7	.1	.34	.03	.26
Elateridae					
Drasterius scutellatus	16.7	T	T	T	T
Hymenoptera					
Formicidae (ants)	50.0	.5	1.71	.13	1.13
Solenopsis sp.					
Crematogaster sp.					
Unclass ant					
Annelida					
Earthworm parts	16.7	T	T	T	T
Araneida					
2 unclass spiders	16.7	T	T	T	T
Total Animal Food		18.1	61.98	5.87	51.17

Table I cont'd.

	Percent of Occurrence	Volume		Weight	
		cc	%	gm.	%
Plant Food					
Leguminosae (legumes)					
Sesbania macrocarpa	33.3	2.8	9.59	1.91	16.65
Centrosema virginianum	33.3	.7	2.40	.36	3.14
Galactia regularis	33.3	.3	1.03	.12	1.05
Schrankia sp.	16.7	T	T	T	T
Vicia sp.	16.7	T	T	T	T
Euphorbiacede					
Croton capitatus	33.3	T	T	T	T
Phytolaccaceae					
Phytolacca americana	16.7	T	T	T	T
Polygonaceae					
Polygonum sp.	16.7	T	T	T	T
Greens	83.3	5.4	18.49	2.23	19.44
60% Geranium sp.					
30% Oxalis sp.					
5% Ranunculus sp.					
5% Others					
Unclassified Tubers	33.3	1.9	6.51	.98	8.54
Total Plant Food		11.1	38.02	5.60	48.82
TOTAL ALL FOODS		29.2	100.00	11.47	99.99

TABLE II

QUAIL CROPS (10)

Type Food	Percent of Occurrence	Volume		Weight	
		cc	%	gm.	%
ANIMAL					
Coleoptera (beetles)					
Chrysomelidae					
Diabrotica decimpunctata	20	.1	.27	.02	.25
Tenebrionidae	10	T	T	T	T
Alleculidae	10	T	T	T	T
Diptera (flies)					
Tipulidae (larvae)	30	3.3	8.97	6.62	6.62
Pupa of Diptera	10	T	T	T	T
Hymenoptera					
Formicidae (ants)	10	T	T	T	T
TOTAL ANIMAL FOODS		3.4	9.24	.56	6.87
Plant Food					
Leguminosae (legumes)					
Centrosema virginianum	70	1.5	4.08	.77	9.44
Galactia regularis	90	1.0	2.72	.47	5.76
Schrankia sp.	30	.9	2.45	.49	6.00
Sesbania macrocarpa	10	T	T	T	T
Chamaecrista fasciculata	80	1.3	3.53	.70	8.58
Desmanthus sp.	20	.1	.27	.02	.25
Rutaceae					
Xanthoxylum americanum	20	.6	1.63	.25	3.06
Rosaceae					
Prunus serotina	60	5.5	14.95	1.72	21.08
Euphorbiaceae					
Croton capitatus	70	.8	2.17	.33	4.04
Polygonaceae					
Polygonum sp.	30	T	T	.01	.12

Table II cont'd.

	Percent of Occurrence	Volume		Weight	
		cc	%	gm.	%
Rubiaceae					
Diodia sp.	20	.5	1.36	.23	2.82
Geraniaceae					
Geranium sp.	60	.1	.27	.05	.61
Unclassified					
Tubers	10	.3	.82	.15	1.84
Bulbs and corms	40	.7	1.90	.22	2.70
Buds	10	.1	.27	.01	.12
Seed	10	T	T	T	T
Greens	100	20.0	54.35	2.16	26.47
80% Geranium sp.					
15% Oxalis sp.					
5% Others					
TOTAL PLANT FOOD		33.4	90.77	7.58	92.89
GRIT	30	T	T	.02	.25
TOTAL ALL FOODS		36.8	100.01	8.16	100.01

Census - A twelve-stop call-count route was run in the release area on April 26, 1967. The greater part of this route was run last year, when an average of 1.25 calling males was heard with 6.9 calls per stop. This year's count yielded an average of .58 calling males and 3.1 calls per stop.

Only one calling male francolin was heard on the new call-count route. This calling male was about seven miles from the original release site. Reports of a francolin sighting within this call-count area are received from time to time and one is occasionally observed by project personnel but it is doubtful that an established breeding population exists in most of this area.

Prepared by: ____________________
Raymond J. Palermo
Exotic Bird Study Leader

Approved by: ____________________
Robert Murry
Project Leader

DATE: ____________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

EXOTIC BIRD STUDY

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: X1-2 Title: Oak Ridge Francolin

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

No black francolin observations were made during the past year and only an occasional unconfirmed report of one was received during this period. The accelerated program of clean farming has continued to render additional acreage useless as black francolin habitat.

Recommendations:

Recommendations are to discontinue this job due to the apparent failure of the black francolin to become established in the face of changing agricultural practices.

Objective:

To determine the present status of the black francolin near Oak Ridge (Morehouse Parish), Louisiana.

Techniques Used:

Most of our information was gathered by District personnel. This information was in the form of local inquiry and general observations in the release vicinity.

Findings:

No black francolins were observed by District personnel during the past year. Very few reports from local residents were received concerning observation of birds. It is believed that only an occasional bird is presently in the Oak Ridge release area. The accelerated program of clean farming has continued to render additional acreage useless as black francolin habitat.

Prepared by: ______________________
Raymond J. Palermo
Exotic Bird Study Leader

Approved by: ______________________
Robert Murry
Project Leader

DATE: ______________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

EXOTIC BIRD STUDY

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: X1-3 Title: Junglefowl Releases

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

A total of 168 juvenile red junglefowl were released on the West Bay Wildlife Management Area from December, 1966 through February, 1967. Released birds dispersed quickly and by April none could be located except one female which was at a farmhouse with domestic chickens.

Recommendations:

One more junglefowl release should be attempted. The area selected should have natural barriers to discourage dispersion. In addition to the above, more birds should be released in efforts to retain enough birds in an area for successful breeding.

Techniques Used:

Red junglefowl were released on only one area this year; that being the West Bay Wildlife Management area. The existing conditioning pen was used to hold the birds until release. One hundred sixty-eight birds were placed in this pen in late summer and held until early December, 1966 when a portion was released. Supplementary feed was scattered in the immediate release vicinity in efforts to hold birds near the release site. Most of our information concerning this release came from direct observations made by district personnel assigned to the West Bay area.

Findings:

West Bay Area: Birds were seen regularly for a short period of time after final releases were made in late February, 1967. Observations indicated that birds dispersed quite rapidly after that and by the middle of April no sign of birds could be located in the release vicinity. One female junglefowl was located about six miles west of the release site . This bird was at a homesite with domestic chickens. No nests or broods were reported during the past year.

Thistlethwaite Area: No releases were made during 1966-67 on this area, however, periodic checks were made in and around the release area. No junglefowl could be accounted for on these checks. It was assumed that birds releases made previously were failures as no evidence of junglefowl has been seen in almost two years.

Idlewild Area: During 1966-67 frequent inspections of the release area were made by district personnel. These checks resulted in only an occasional junglefowl being observed near a farmhouse. In all instances these occasional birds were associated with domestic chickens. No nests or broods were reported. No releases were made on this area since early 1966.

St. Helena Area: The last junglefowl release was made in early 1966 on this area. Frequent visits to the area were made by an employee while attending turkey trapping duties. He frequently reported observing a male junglefowl and two hens near one of the trap sites. He also reported that junglefowl had been seen within a six to eight mile radius of the initial release site. No nests or broods were reported from this area during 1966-67.

Prepared by: ______________________
Raymond J. Palermo
Exotic Bird Study Leader

Approved by: ______________________
Robert Murry
Project Leader

DATE: ______________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

EXOTIC BIRD STUDY

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: X1-4 Title: Other Releases

Period Covered: July 1, 1966 through June 30, 1967

Abstract:

Pen reared black francolins were released on three areas in 1966-67. Bamboo partridges were released on one area and Japanese green pheasants released on one area. Black francolins appear to be doing well on two areas while we are uncertain on the other. One nest has been found on one area and we feel that reproduction is taking place. Bamboo partridges have shown little encouragement after being released. High initial mortality seems to be an important factor. The Japanese green pheasant release shows fairly good survival but no evidence of reproduction has been observed.

Recommendations:

Continue the black francolin release at Fort Polk for one more year (1967-68) after which a final evaluation will be made. Follow the progress of the black francolin population on the Bodcau release area; continue and expand the Cloutierville francolin release; terminate bamboo partridge releases; continue Japanese green pheasant releases one more year (1967-68) and make a final evaluation.

Objective:

To consolidate and evaluate information on the survival, reproduction, dispersal and habitat preferences of pen-reared black francolin, bamboo partridge and Japanese green pheasant releases.

Techniques Used:

Black francolins were released at three locations during this year. These included the Bodcau Wildlife Management Area, the Fort Polk Wildlife Management Area and on the new Cloutierville release area. Bamboo partridges were released on one area as were Japanese green pheasants.

Black Francolins (Bodcau W.M.A.) - Two hundred forty-two pen-reared francolins were placed in the existing conditioning pen in late summer, 1966. Approximately half of the birds were released in November, 1966, and the remaining half released in March, 1967. Supplemental feed (henscratch) was made available around the release pen after release.

Black Francolins (Fort Polk W.M.A.) - Three hundred and eight pen-reared francolins were placed in the existing pen in late summer, 1966. Approximately one-third was released in early December, 1966 and the remaining two-thirds in March, 1967. Supplemental feed (henscratch) was made available around the release pen vicinity after release. Wheat, millet and sorghum was planted in strips near the release pen in an effort to hold birds in the area.

Black Francolins (Cloutierville Area) - The Cloutierville release area is located in Central Louisiana and consists of approximately 11,000 acres of Red River bottomland. This plantation is in the process of being established into pecan orchards over the entire holdings. During the winter and spring months, cattle are grazed on portions of the area. There are no row crops on the plantation, however, much cultivation and improved pastures are presently adjacent to the area. Many fence rows are present on the immediate release area with fairly good weed cover. Hay is cut during the summer months.

A conditioning pen 50 x 150 feet was constructed on the area. This pen was constructed of 1" poultry wire with a single electric wire placed near the ground to discourage predators. One hundred and sixty-six pen-reared francolins were placed in the conditioning pen from October-December 1966. A portion of these birds were released in middle December 1966. This release consisted of three-fourths males and one-fourth females. They were specially marked with a pink nylon streamer attached to a red Aluminum leg band. The remaining birds were released in early March, 1967. These were banded with conventional aluminum leg bands.

Bamboo partridge (DeRidder Airport) - Sixty-two bamboo partridges were placed in the conditioning pen at the DeRidder Airport between August 31, 1966, and January 6, 1967. Twenty of these were released in early January, 1967, and the remainder in April.

Japanese green pheasant (Fenton Area) - Two hundred and twenty-six pen-reared pheasants were placed in the existing conditioning pen at the Fenton release area from August to December, 1966. A portion of these were released in middle November, 1967.

Findings:

Black Francolin (Bodcau W.M.A.) - This black francolin release looks promising. Calling males were observed and heard throughout late summer, 1966, and also through the spring, 1967. No nests or broods have been reported although we are reasonably sure that reproduction is taking place. From our observations, it appears that the immediate release area is at carrying capacity and therefore do not plan to release additional birds, but we do plan to follow the progress of this release closely.

Black Francolin (Fort Polk W.M.A.) - Wheat, millet and sorghum plantings were made near the francolin conditioning pen last summer. Released birds utilized this food and cover throughout the winter and spring. Calling males were frequently observed in the release area. No nests or broods have been observed, however, it is quite likely that nesting is taking place. The improved habitat (plantings) is believed to be the main reason released birds can still be found in the release area.

Black Francolin (Cloutierville Area) - Survival of December released birds was apparently good since a few birds were observed within two miles of the release site throughout January and February. Dispersal of released francolins did not exceed two miles. Throughout the spring, several calling males and a few females were observed. No broods have been observed, however, one nest containing seven eggs was destroyed by a mowing operation in June, 1967. This nest was one and one-half miles from the release pen. The incubating female was killed and one egg was broken. The remaining six eggs were placed under a bantam chicken, all six eggs hatched and the francolin chicks are growing well with their foster mother. These francolin chicks are allowed to range with the bantam hen in the caretaker's yard which is on the release area. At the present time this release looks very promising. A larger number of birds are planned for release during 1967-68.

Bamboo Partridge (DeRidder Airport) - Recent released birds were observed several times near the conditioning pen where supplementary feed had been put out. No evidence of nesting could be found. After the month of May, no evidence of surviving birds could be found. High initial mortality is believed to be one very important decimating factor of recently released bamboo partridges. This was the final bamboo partridge release. If any pertinent information is received concerning this release, it will be reported next year.

Japanese Green Pheasant (Fenton Area) - Although over two hundred birds were placed in the conditioning pen, only a portion was actually released. A predator, assumed to be a dog, broke through the wire and killed thirty-two birds one night. This incident occurred after a portion of the birds were released in November. No nests or broods have been reported from this release area, however, birds are observed quite often within a two-mile radius of the release site. One more year's releases will be made on this area after which a final evaluation will be made.

Prepared by: ______________________
Raymond J. Palermo
Exotic Bird Study Leader

Approved by: ______________________
Robert Murry
Project Leader

DATE: ______________________________

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

EXOTIC BIRD STUDY

State of: Louisiana

Project No.: W-29R-14 Name: Statewide Wildlife Investigations

Job No.: X1-5 Title: Wild-trapped Black Francolins

Period Covered: July 1, 1966 through June 30, 1967

Objective:

To provide a suitable number of wild-trapped black francolins for releasing and for breeding stock at the DeRidder propagating unit.

This objective was not accomplished due to the landowner's reluctance to give the Louisiana Wild Life and Fisheries Commission permission to trap and move birds from his property.

Prepared by: ______________________
Raymond J. Palermo
Exotic Bird Study Leader

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Robert Murry
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